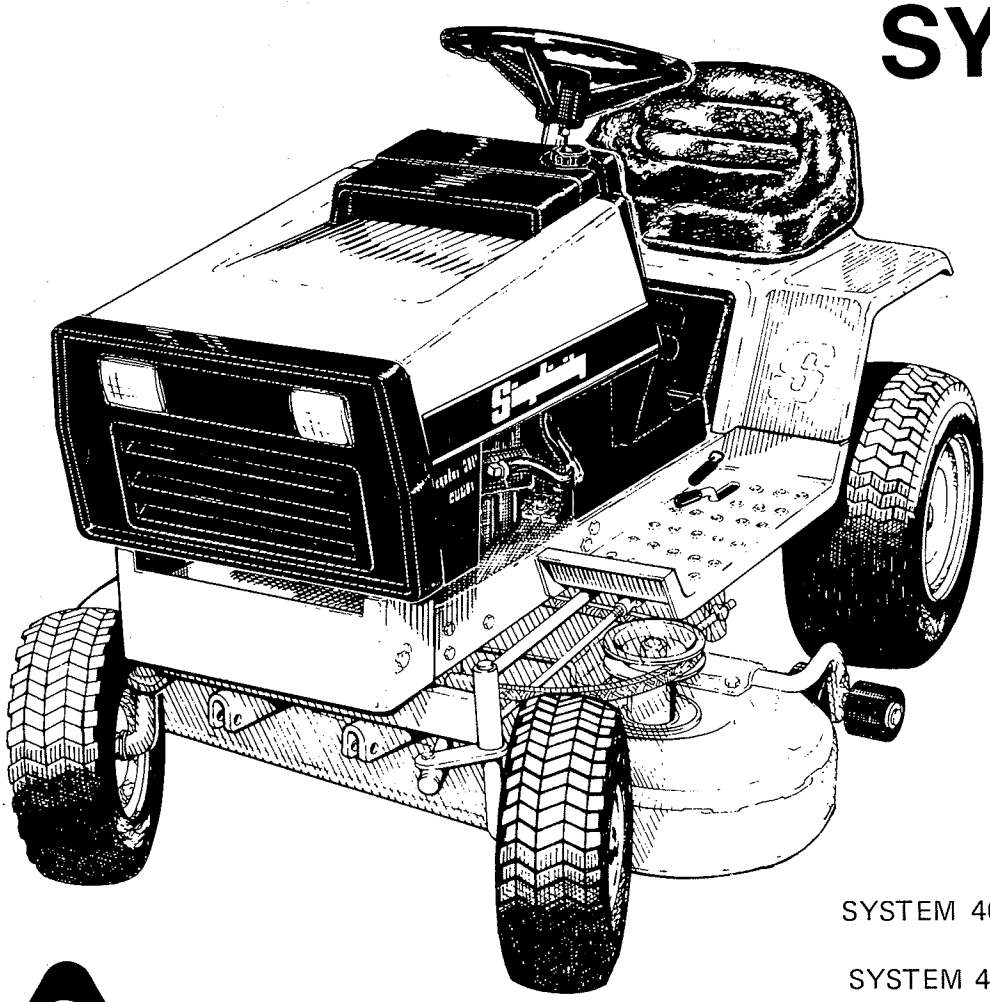
Simplicity®

OPERATOR'S MANUAL

SYSTEM 4000



SYSTEM 4008 8 H.P. TRACTOR
MFG. NO. 1690173
SYSTEM 4108 8 H.P. TRACTOR
MFG. NO. 1690174
SYSTEM 4208 8 H.P. TRACTOR
MFG. NO. 1690176

CAUTION: Read Manual Thoroughly Before Operating Tractor

FORM – 1654609
PRINTED IN U.S.A.
763

Dear Simplicity Customer:

Congratulations on your purchase of this Simplicity tractor. Your tractor has been carefully designed and built to give you years of dependable service. This tractor has been built to meet or exceed current O.P.E.I. safety standards, ANSI Safety Specifications B71.1-1972, B71.1a-1974, and has been certified by an independent testing laboratory. With proper care, it will help you do your most important jobs quickly and easily.

To make sure you get the utmost value from your purchase, study this manual carefully. Also study all other enclosed literature before operating or performing any adjustments on your machine. Have anyone else who plans to run the tractor read this information also.

For the safety of you and others, study the safety information on page 2. Review this information often. It is there for your benefit and is important.

We have provided you with other information which will enable you to service, operate, and adjust your tractor. Should you need help with any of these procedures, your Simplicity dealer will be happy to help you with any service or repair work.

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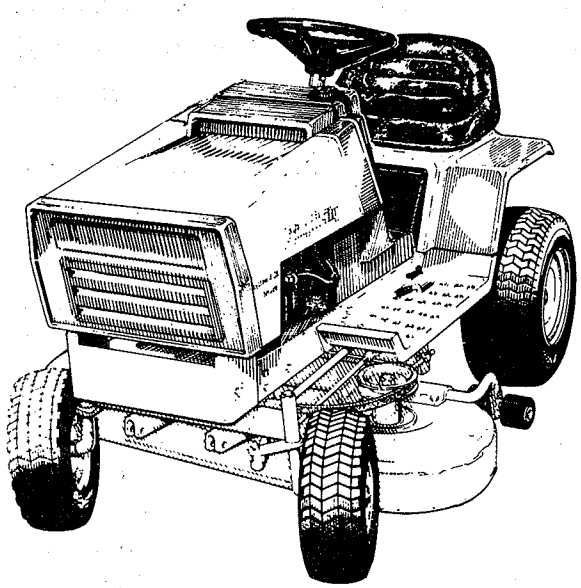
system 4000



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WARNING

Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of vehicle, severe personal injury to yourself or bystanders, or damage to property or equipment.

Safety Rules

This notation preceding Cautions and Warnings in the text signifies important precautionary steps which, if not properly followed, could result in personal injury or damage to your equipment.

General

- Read the Operating and Service Instructions carefully. Be thoroughly familiar with the controls and the proper use of the equipment.
- Never allow children to operate the machine. Do not allow adults to operate it without proper instruction.
- Do not carry passengers.
- Keep the area of operation clear of all persons, particularly small children and pets.
- When using any attachments, never direct discharge of material toward bystanders nor allow anyone near the vehicle while in operation.
- Make Sure:
  a. tractor and attachments are in good operating condition,
  b. all safety devices and shields are in place
  c. and in good working condition, and
  d. all adjustments, (cutting height, etc.), have been made.

Preparation

- Handle gasoline with care—it is highly flammable.
  a. Use approved gasoline container.
  b. Never remove the cap of the fuel tank or add gasoline to a running or hot engine, or fill the fuel tank indoors. Wipe up spilled gasoline.
- Do not run the engine indoors. Exhaust fumes are dangerous.
- Clear the work area of objects which might be picked up and thrown.
- Disengage all attachment clutches and shift into neutral before attempting to start the engine.
- Wear heavy footwear. Do not operate tractor when barefoot or when wearing open sandals or canvas shoes.

Operation

- Disengage power to attachment(s) and stop the engine before leaving the operator's position.
- Disengage power to attachment(s) and stop the engine before making any repairs or adjustments.
- Shut the engine off when unclogging chute.
- Stay alert for holes in the terrain and other hidden hazards. Be extra careful when operating on wet or slippery surfaces.
- The vehicle and attachments should be stopped and inspected for damage after striking a foreign object, and the damage should be repaired before restarting and operating the equipment.

- Disengage power to attachment(s) when transporting or not in use.

- When using the vehicle with mower, proceed as follows:
  a. Mow only in daylight or in good artificial light.
  b. Never operate the tractor without the mower clutch safety interlock switch properly attached and working.
  c. Check the blade mounting bolts for proper tightness at frequent intervals.

- Do not stop or start suddenly when going uphill or downhill. Mow up and down the face of steep slopes; never across the face.

- Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Use extreme caution when changing direction on slopes.

- Watch out for traffic when crossing or near roadways.

- If equipment begins to vibrate abnormally—disengage power to attachments and stop engine at once. Inspect for damage and correct before starting up tractor.

- Use care when pulling loads or using heavy equipment.
  a. Use only drawbar hitch point.
  b. Limit loads to those you can safely control.
  c. Do not turn sharply. Use care when backing.
  d. Use counterweight (s) or wheel weights when suggested in the operator's manual.

- Take all possible precautions when leaving the vehicle unattended, such as disengaging the power take off, lowering the attachment (s), shifting into neutral, setting the parking brake, stopping the engine, and removing the key.

- Keep the vehicle and attachments in good operating condition, and keep safety devices in place.

Maintenance and Storage

- Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.

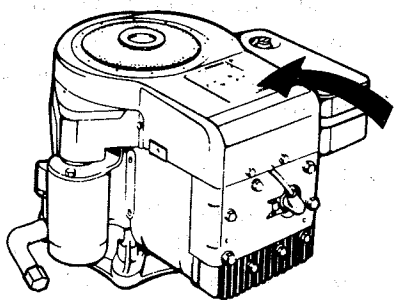
- Do not change the engine governor settings or overspeed engine.

- To reduce fire hazard, keep the engine free of grass, leaves, or excessive grease.

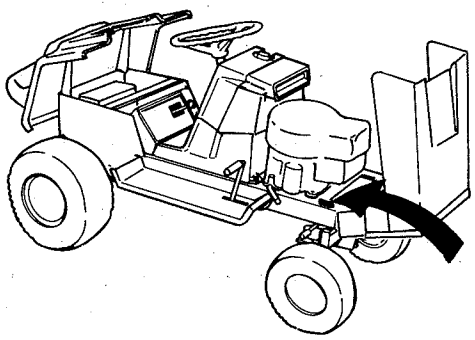
- Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.

Tractor Identification

When ordering replacement parts for your Simplicity tractor, be prepared to give your dealer the identification numbers found on the tractor and engine identification plates shown below. The identification plate for the tractor is located on the right frame in front of the engine. The engine ID plate is located on the top of the engine blower housing. We suggest that you locate the numbers and record them below for easy reference.



Engine I D



Tractor I D

Accessories

There are many optional accessories available for your Simplicity tractor through your Simplicity dealer. They will make your tractor perform better, or make it easier to operate when using various attachments. See your Simplicity dealer if you wish to purchase any of the following:

WHEEL WEIGHTS – REAR
FRONT LIGHT KIT (4108)
LIFT LEVER
PTO LEVER GROUP (4008)
TIRE CHAINS
HOUR METER (4108, 4208)
HUB CAPS

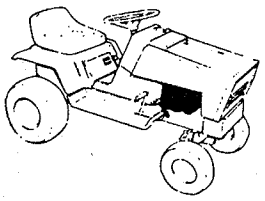
Attachments

To make your Simplicity tractor most useful to you, a complete line of attachments is available through your Simplicity dealer. Contact him if you wish to purchase any of the following:

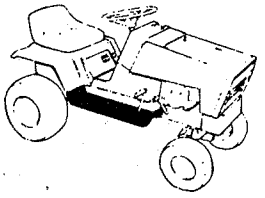
DUMP CARTS (400 & 1000 Lb. Capacity)
36" ROTARY SNOW THROWER
31" & 38" TRAILING SWEEPERS
42" SNOW PLOW AND DOZER BLADE

Models illustrated in this manual may vary slightly from the model you have.

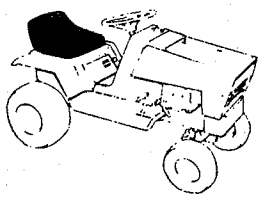
Owner Benefits



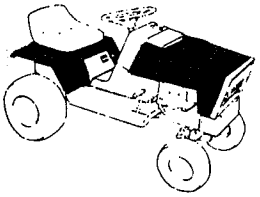
Dependable, rugged 8 HP engine with mechanical governor assures smooth performance under varying load conditions.



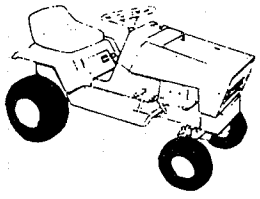
Full length foot rests increase operator's comfort and safety. Conveniently located parking brake keeps the tractor from moving when unattended.



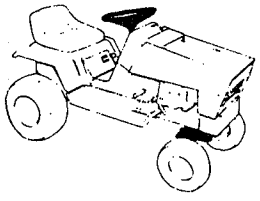
Comfortable padded bucket seat is vinyl covered, and is adjustable to suit different size operators.



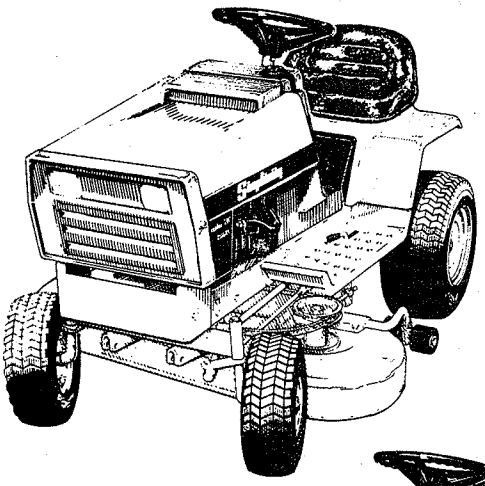
Tilt-up hood and seat deck make maintenance areas accessible.



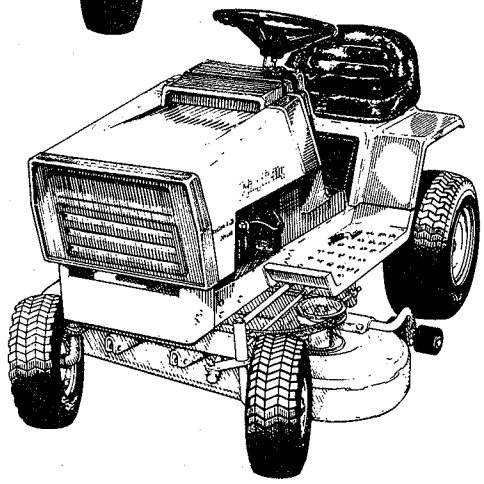
Large wide tires give comfortable ride and protect the most sensitive lawns.



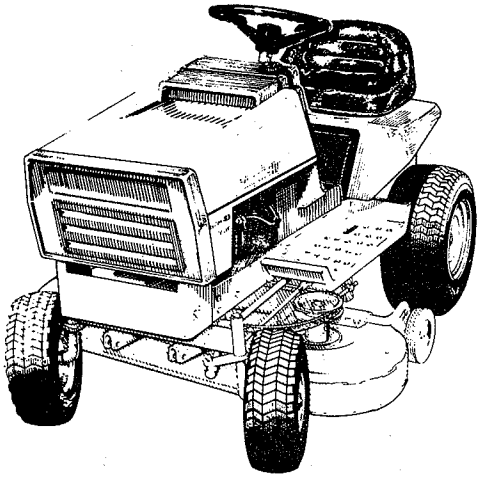
Steering is easy with all-gear system, designed to give excellent maneuverability and trouble-free long life. The short turning radius allows working around tight corners and in confined areas.



system 4208



system 4108



system 4008

Safety interlock lights on model 4208 tell operator at a glance if tractor is ready to start.

Combined clutch and brake pedal insures safe starting and stopping with easy rocker action.

Center anti-scalp roller helps the mower follow the contour of your lawn, giving smooth, neat mowing.

Tool box on model 4208 lets you carry often used tools with you on the tractor, safely and without fear of loss or damage.

Dependable all-gear transaxle has three forward speeds, one reverse. Gears are fully enclosed, sealed and lubricated.

Fast starting under the most extreme weather conditions is assured with a heavy duty 12-volt electric starter and 32 ampere-hour battery on the 4108 and 4208 models.

Dash-mounted operating controls are easily accessible and provide quick finger-tip control.

Mower Installation

To install your mower on your tractor, proceed as follows:

1. Turn the front tractor wheels to the left as far as they go. (For easier installation, place the tractor on a smooth, hard surface, such as concrete.)
2. Slide the mower under the tractor from the right side, and align the mower hitch arms with the rear holes in the tractor front axle mounting points (see figure 1).
3. Attach the mower hitch arms to the tractor through the rear holes on the front axle with two pins and locking clips provided (figure 1.) Install the pins from the outside.
4. With the mower clutch disengaged, slip the drive belt onto the lower engine pulley.
5. Adjust the belt stop on the tractor so that there is 1/16 inch clearance between belt and belt stop when the mower clutch is engaged (see figure 1).

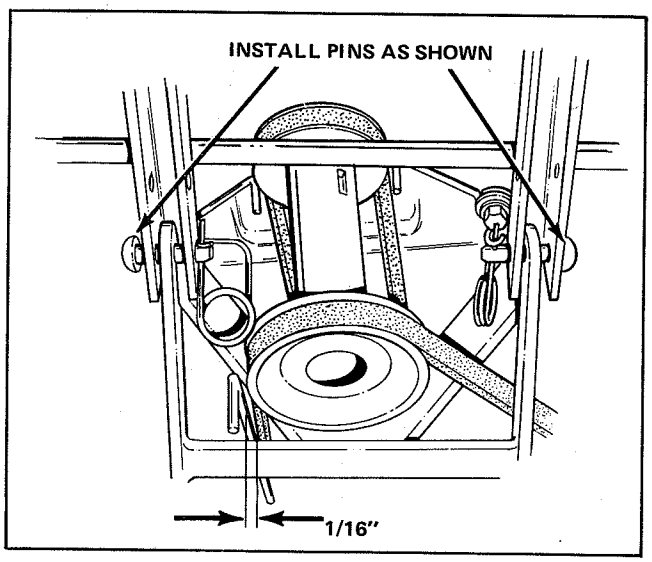


Figure 1. Attaching Mower

6. Disconnect wire connector from bypass terminal (under seat deck, see figure 6), and attach wire connector to mower safety interlock switch (figure 2).

WARNING

Do not operate the tractor with the mower unless the wire connector is properly installed on the mower safety interlock switch.

7. Attach lift cable from mower deck to lift lever (models 4108 and 4208) with flat washer and spring clip (see figure 3.)

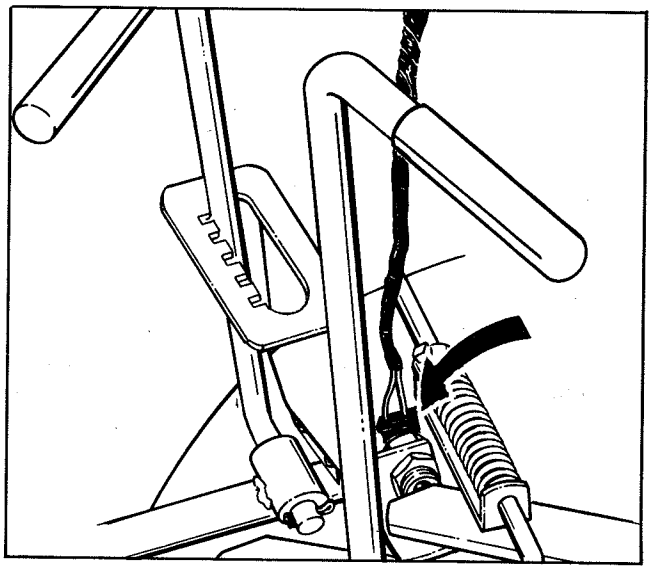


Figure 2. Attaching Interlock Switch Wire

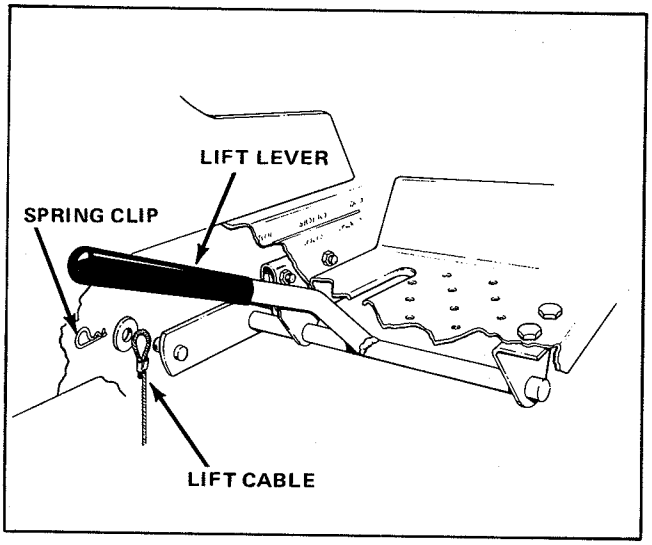


Figure 3. Attaching Lift Cable

Mower Idler Arm Belt Stop Adjustment

The mower idler arm belt stop should be 1/8 inch from the mower belt when the mower clutch is engaged (see figure 4). If it is not, loosen the locknut holding on the belt stop and move the belt stop until the 1/8 inch clearance is reached. Then retighten the locknut while holding the belt stop to keep it from moving.

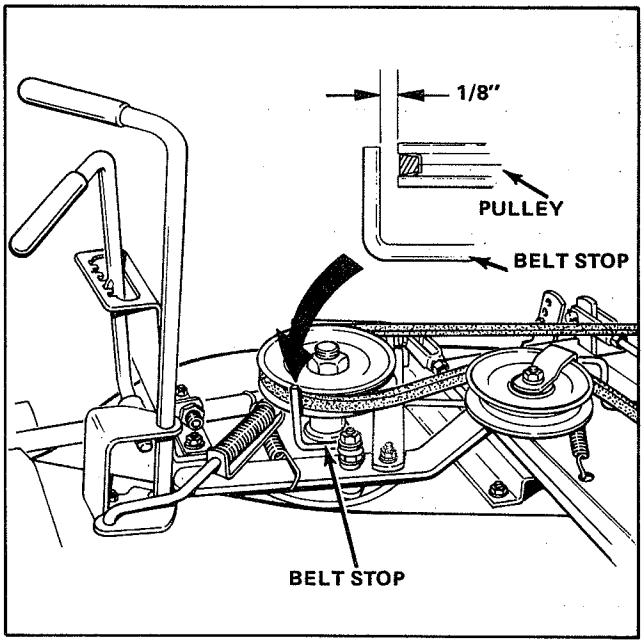


Figure 4. Idler Arm Belt Stop Adjustment

Mower Idler Pulley Belt Guard Adjustment

The mower idler pulley belt guard should be adjusted so that it is pointed directly toward the left arbor pulley when the mower clutch is DISENGAGED. If it is not, loosen the nut holding on the belt guard and pulley, point the belt guard toward the left arbor (as shown in figure 5). Tighten the nut while holding the belt guard to keep it from moving.

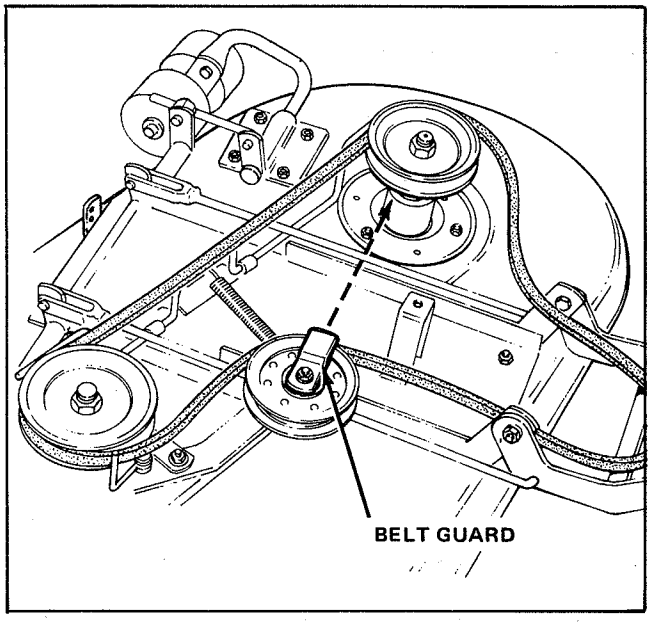


Figure 5. Idler Pulley Belt Guard Adjustment

REMOVING MOWER

1. Turn the front tractor wheels to the left as far as they go. Remove mower drive belt from engine pulley.
2. Remove wire connector from mower safety interlock switch and attach connector to bypass terminal inside of seat deck, (see figure 6).
3. Remove cable from lift lever.
4. Remove two pins and locking clips from front mower hitch arms.
5. Slide mower out right side of tractor and replace pins and locking clips in mower hitch for storage.

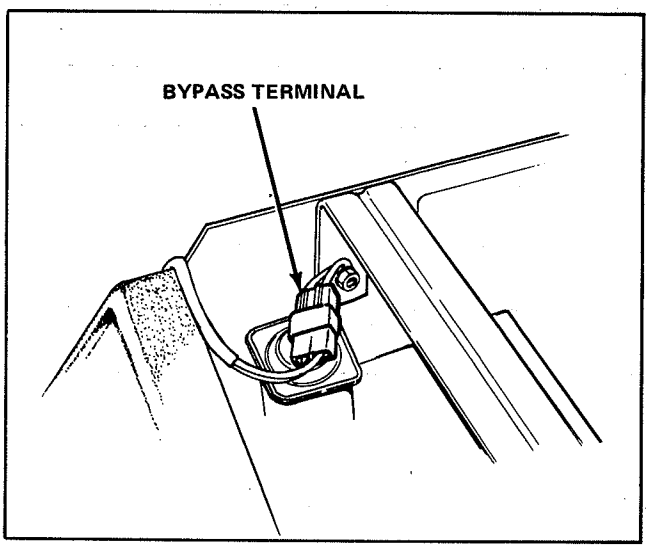


Figure 6. Attaching Connector to Bypass

WARNING

Do not operate the tractor with the mower unless the wire connector is properly installed on the mower safety interlock switch.

NOTES

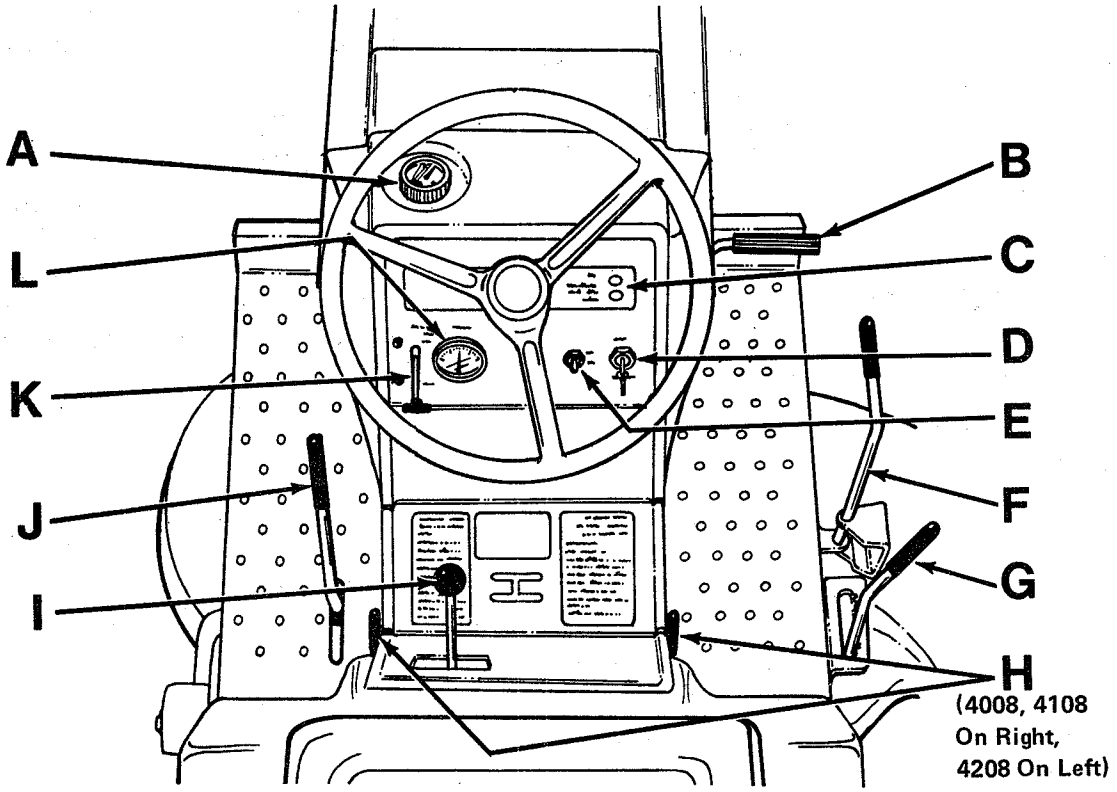
Operation

CONTENT OF SECTION

A brief description of tractor controls, followed by the basic tractor operating procedures, is given in this section to help you get to know your tractor and how to operate it safely and efficiently.

TRACTOR CONTROLS

Figure 7 shows the location, name, and function of each of the tractor controls. The control names given in figure 7 are used throughout the manual.



Item	Name	Function
A	**Fuel Gauge Cap**	Shows the amount of fuel in the tank and serves as fuel tank cap (models 4108 & 4208).
B	**Clutch-Brake Pedal**	Controls both main clutch and brake. Disengages clutch when pressed down at least half-way. Applies brake when fully depressed.
C	**Safety Interlock Lights**	Show when PTO and transaxle are in disengaged (neutral) position. (Model 4208).
D	**Ignition Switch**	Operates with key to start, run, or turn off engine.
E	**Light Switch**	Switches tractor headlights on or off. (Standard on model 4208, optional on 4108).
F	**Mower Clutch Lever**	Engages mower and disengages mower.
G	**Mower Height Control**	Adjusts mower cutting height.

Item	Name	Function
H	**Parking Brake Lever**	Locks brake to hold tractor in parked position.
I	**Gear Shift Lever**	Shifts transmission gears to control ground speed and direction of travel.
J	**Lift Lever**	Lifts and locks the rotary mower in transport position (models 4108 & 4208). Also used to operate PTO clutch for snow thrower.
K	**Engine Speed Control**	Operates engine choke and throttle. Positioned at CHOKE to start cold engine. Positions from SLOW to FAST used to adjust engine speed.
L	**Ammeter**	Shows when battery is being charged or discharged. (model 4208).

Figure 7. Locations and Functions of Controls

OPERATING PROCEDURES

The rest of this section tells you how to operate your tractor. The directions assume that the tractor is working properly. If your tractor does not work properly during operation, refer to the Troubleshooting section of this manual.

The directions in this section have been arranged so that you learn the basic operating procedures safely and efficiently. When operating the tractor for the first time study and be familiar with the following operating directions in the order given:

- Location and Function of Controls
- Checks Before Starting
- Stopping the Tractor
- Selecting and Shifting Gears
- Starting the Engine
- Starting Tractor into Motion
- Before Leaving the Tractor

NOTE

When driving the tractor for the first time, start off in first gear and drive only on level ground. Get the feel of starting, stopping, and starting again. Then increase speed by adjusting the engine speed control and by selecting second and third gears.

Before starting any operation it is essential that you review and become completely familiar with the Safety Rules on page 2.

After you have become familiar with all of the above procedures you should be ready to operate the tractor and attachments. Refer to the paragraph in this section titled "Operating with Attachments" and the appropriate manual for the attachment.

Checks Before Starting

The checks below should be performed before starting the engine for the first time. Repeat these checks each time you use the tractor to insure that it is ready for use.

1. Refer to Normal Care section of this manual to determine and perform needed care.
2. Seat yourself on the tractor. Try operating some of the controls to see if the seat position fits you. If not, see the seat adjustment procedure in the Adjustments section of this manual.
3. Check your fuel supply. Be sure that you have enough fuel for the job you intend to perform. If more fuel is needed, fill the tank as follows:

WARNING

Gasoline is highly flammable and must be handled with care. Never fill the tank when the engine is still hot from recent operation. Do not allow open flame, smoking or matches in the area. Avoid overfilling and wipe up any spills.

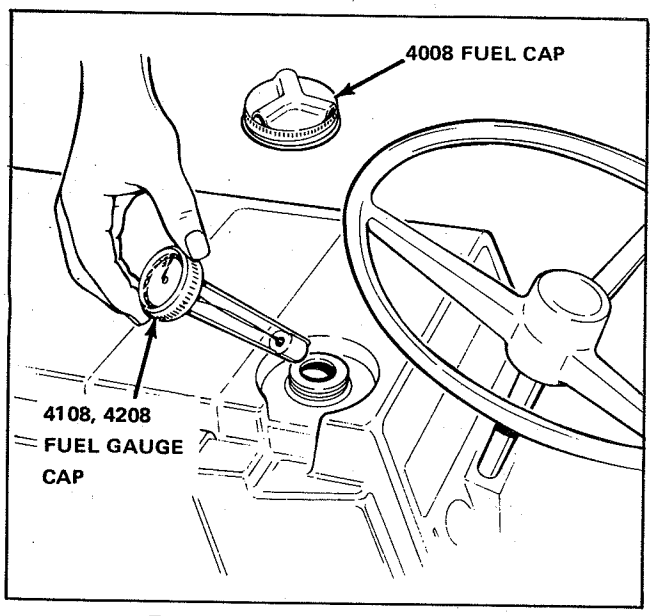


Figure 8. Removing Fuel Cap

a. Remove fuel cap as shown in figure 8.
b. Fill fuel tank completely with clean, fresh, leaded or nonleaded regular grade gasoline.
c. Install and hand tighten fuel cap.

Stopping the Tractor

The clutch-brake pedal is used to produce either gradual or rapid stops. For a gradual stop on level ground, press the pedal down only far enough to disengage the clutch. For a more rapid stop, press the pedal down further to also apply the brake.

Try to avoid sudden stops on hills. Also avoid using the brake to control downhill speed. Select a low gear and a slow engine speed before starting downhill.

Selecting and Shifting Gears

The transmission gears are shifted by moving the gear shift lever. The gear shift lever has five positions. These positions are for neutral, reverse, and the three forward speeds. Shift gears as follows:

1. Determine the gear best suited for the desired tractor speed. Use guides below:

NOTE

When using an attachment, consult attachment manual for proper gear and speed and the Recommended Operating Speeds guide, at the end of this section.

- Neutral gear position disengages engine from rear drive wheels. Select neutral to enable engine starting.
- Reverse gear drives the tractor backwards. Select this gear to back up.
- First gear produces slow tractor speeds in the forward direction. The fastest possible speed in this gear is just over 1.5 miles per hour. Use this gear to travel up or down hills or over rough ground.
- Second gear produces medium tractor speeds up to 3 miles per hour in the forward direction. Use this gear for travel on slight slopes or where the ground is fairly smooth.
- Third gear produces a maximum tractor speed of over 4 miles per hour in a forward direction. Use this gear to travel longer distances over ground or pavement that is smooth and level.

2. Press down on clutch-brake pedal to disengage clutch.
3. Bring tractor to a complete stop.

NOTE

A decal on the tractor below the gear shift lever shows the shift pattern. Remember the actual neutral position is up and down rather than forward and backward as shown on the drawing.

4. Move the gear shift lever to the position for the desired gear. You are now ready to start or resume tractor motion.

WARNING

Do not start or run engine in an enclosed area. Open doors if in garage — exhaust fumes are dangerous.

Starting the Engine

Complete the "Checks Before Starting" procedures. Then proceed as follows:

1. Seat yourself on the tractor.
2. Set parking brake by lifting parking brake lever up and back.
3. Set engine speed control to CHOKE position. When engine is warm, it may not be necessary to choke engine.
4. Turn mower clutch lever as far as it will go to the left to disengage mower.
5. Set gear shift lever to neutral position.

WARNING

For your safety the transmission gear shift lever has to be in neutral and the mower clutch lever in fully disengaged position before the engine will start.

6. **On model 4008,** insert the key in the ignition switch and turn it to ON. Stand near the left side of the tractor and raise the hood.
7. Grasp the starter rope handle and pull outward. The engine should start. If it does not start in two or three pulls, repeat steps 4 and 5.
8. After the engine has started, move the engine speed control to SLOW. Warm up the engine by running it for at least a minute before engaging the mower clutch lever or driving the tractor.

9. On models 4108 and 4208, press the clutch-brake pedal down to disengage the clutch. Keep the clutch depressed until the engine starts.
10. Insert the key into the ignition switch and turn it clockwise to START. The engine should start. If it does not turn over, repeat steps 4 and 5.
11. When the engine starts, release the key. It will return to the ON position for normal running.
12. Move the engine speed control to SLOW. Warm up the engine by running it for at least a minute before engaging the mower clutch lever or driving the tractor.

Starting Tractor into Motion

This procedure describes how to safely start the tractor into motion after starting the engine and selecting a gear.

1. Rotate steering wheel to turn front wheels in the direction you want to go.
2. Set engine control for 1/3 to 1/2 speed.
3. Release parking brake.
4. Make sure that the path in desired direction of movement is clear.
5. Slowly release clutch-brake pedal to engage clutch and set tractor into motion.
6. Adjust engine speed control for desired speed.

Operating with Attachments

This paragraph describes a general procedure for tractor operation with attachments.

1. Start engine after insuring that attachment is properly installed and ready for use. Refer to attachment manual for details.
2. Raise the attachment to its highest position.
3. Select and shift into gear best suited to travel to work site.
4. Start tractor into motion and proceed to work site.
5. At work site, bring tractor to complete stop.
6. Shift into neutral gear position.
7. Lower the attachment.
8. Clear work site of any objects that might be thrown by or get caught in attachment, such as sticks, stones, bones, wire, etc.
9. Be sure that the attachment discharge is not directed toward people or pets.
10. Start attachment slowly.
11. Adjust engine speed control (usually about 3/4 speed) and shift to gear best suited to attachment operation. (Refer to attachment manual or to guide at end of manual, figure 40.)
12. Start tractor into motion.

NOTE

Complete remaining steps to return machine to storage site.

13. Disengage attachment, stop tractor motion, and shift to neutral.
14. Raise attachment to its highest position.
15. Shift into desired gear and resume tractor motion to return to storage site.

Before Leaving Tractor

To prevent accidents, perform steps below before leaving tractor seat.

1. Disengage attachment, stop tractor motion, and shift to neutral.
2. Bring tractor to a complete stop.
3. Set engine control to SLOW.

NOTE

Stopping a hot engine too suddenly can cause engine damage. Move engine control to SLOW and idle engine for about one minute before stopping engine.

4. Set parking brake.
5. Release clutch-brake pedal.
6. Turn ignition key to OFF and remove key.
7. Shift into gear and lower attachments.

Operating With Mower

WARNING

To prevent serious personal injury, do not work around the mower housing area until you are certain that the mower blades have stopped rotating. Obey the Warnings on the mower housing and the Safety Rules at the front of this manual.

When operating the mower for the first time, begin by operating on level ground at a slow ground speed until you become familiar with the controls and handling of the tractor.

Before starting your mowing job, check the mower carefully to be sure it is properly installed and the mower blades are in good condition.

Determine the best method of mowing according to the shape, terrain, and obstructions of the lawn.

Be sure that the mower is properly leveled and adjusted as outlined in the Adjustments sections of this manual.

Engine speed. Engine speed should normally be operated at 2/3 to full throttle when mowing. When grass is wet or over 3 inches high, engine should be run at full speed for best results.

Transmission Gear Selection. Second gear should only be used in smooth level lawns with moderate to light grass crop. It is necessary to depress clutch pedal and stop tractor before shifting. Always select a forward speed that is slow enough to assure that you can properly and safely control the tractor over the ground conditions encountered. On rough or hilly terrain, or when the grass crop is heavy, use first gear.

Mowing Pattern and Tips. For the first use of the mower choose a smooth level area. Cut long straight strips overlapping slightly.

The size and type of area to be mowed determines the best mowing pattern to use. Obstructions such as trees, fences, and buildings must also be considered. In most cases, making one or two passes in a clockwise direction around the outside of the area to be mowed is advisable to keep cut grass off fences, walks, etc. The remainder of the mowing should normally be done in a counter-clockwise direction so the clippings are dispersed on the cut area.

Always keep the left side of the mower toward trees, posts, or other obstacles on the first pass around the obstacles to keep hand trimming to a minimum.

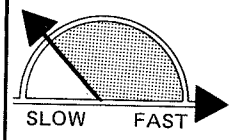
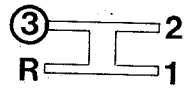
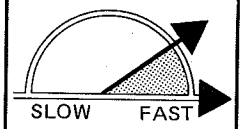
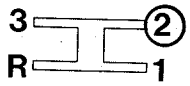
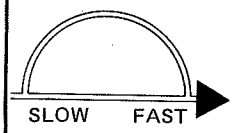
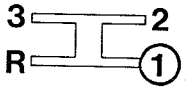
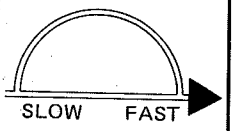
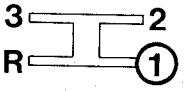
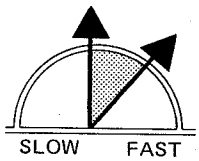
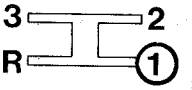
On moderate size, frequently mowed lawns where grass is light and dry, it is sometimes practical to mow in a clockwise direction so that clippings are thrown toward the center of the lawn and concentrated for easy pickup and removal.

Most lawns should be mowed to keep the grass approximately two to three inches high. Best results are obtained by cutting often and not too short. To keep a green lawn, never mow more than one third off the height of the grass or a maximum of one inch in one mowing. For extremely tall grass, set the cutting height at maximum for the first mowing, then reset to the desired height and mow again. Allow the grass to grow to three inches, then cut off only the top inch.

On thick or springy grass or soft ground, the mower rollers may sink into the ground giving too low a cut. Adjust the cutting height to get the desired height of cut.

For best appearance, grass should be cut in the afternoon or early evening (in daylight) when it is free of moisture.

Where possible, change patterns occasionally to eliminate matting, graining and a corrugated appearance.

Attachment	Engine Speed Control	Transmission Gear Selection	Approx. Ground Speed (MPH)	Required Accessories and Options	Recommended Accessories and Options
Transporting Tractor			3 - 4.5		
36" Rotary Mower (Smooth terrain - normal grass)			2 - 3		Use two rear wheel weights when mowing slopes over 15% (8.5°). Mowing on slopes greater than 30% (16.7°) not recommended.
36" Rotary Mower (rough terrain-heavy or wet grass)			1 - 1.5		Use two rear wheel weights when mowing slopes over 15% (8.5°). Mowing on slopes greater than 30% (16.7°) not recommended.
36" Snow Thrower			1 - 1.5	Front Lift PTO Lever (4008 Only)	Tire chains 2 rear wheel weights
42" Snow Plow and Dozer Blade			1 - 1.5	Hitch Front Lift	Tire chains 2 rear wheel weights

Recommended Operating Speeds Chart

Normal Care

CONTENT OF SECTION

Your tractor and mower were designed and built to provide years of service with only minor care. Certain tasks however, must be performed to keep them in good operating condition and to avoid costly repair. This section shows you how to provide the necessary care for the tractor and mower. To service any other attachment, refer to the separate manual for that attachment.

TRACTOR SCHEDULED CARE

A schedule for routine care is provided in figure 9. Check the listed items before operating the tractor for the first time to insure that the tractor is ready for use. Performing the checks will also help you to become familiar with the care of the tractor.

All other scheduled care is performed after operating the tractor for a specific amount of time. See figures 10 through 16. Remember to perform the "every 25-hour check" when you perform the "every 100-hour check."

Because the schedule is based on operating time, it will be necessary to determine or estimate the actual operating time. This is easily accomplished if your tractor is equipped with an optional hour meter. If not, you can determine normal times for regular jobs such as cutting your lawn. Multiply these normal times by the number of times you perform the jobs to estimate total operating time. A Maintenance Record (at end of this section) is provided to help you keep a record of all operating hours and maintenance repair actions.

TRACTOR NORMAL STORAGE

To protect your tractor, store it in an enclosed dry area. Do not store it in an enclosure where fumes from the fuel tank could reach an open flame without first draining the fuel tank.

To store your tractor in a cold area between winter snow removal jobs, we suggest that you fill the fuel tank at the completion of each job to prevent water condensation in the fuel tank.

If you do not intend to use your tractor during the winter months, follow these off-season storage instructions.

TRACTOR OFF-SEASON STORAGE

When the tractor is to be stored for two months or longer, take precautions as follows:

NOTE

Fuel may be stored in the tank or in a container for longer periods if a gasoline stabilizer is used. This additive, available from your dealer, prevents formations of gum and varnish for up to one year.

1. Drain fuel tank if stabilizer is not used. This can be done by removing the fuel hose at the engine and draining the hose into a container.
2. After reconnecting fuel hose, run engine until it stops.

Care Required	See Figure	Schedule				
		Before First Use	Every 5 Hours	** Every 25 Hours	Every 100 Hours	*** Spring and Fall
Check Tractor and Engine	10	•	•			
Clean Engine and Air Filter	11			•		
Change Engine Oil*	12			•		•
Lubricate Tractor	13	•		•		
Check Fluid Levels and Tire Pressure	14	•		•		
Clean Battery and Cables	15				•	
Clean or Replace Spark Plug	16				•	
Check Brake Adjustment *(Adjustments Section)*				•		

*Change original engine oil after first 5 hours of operation.
**More often in hot (over 70°F) weather or dusty operating conditions
***Only if tractor is used in both summer (over 40°F) and winter (under 40°F).

Figure 9. Summary of Scheduled Care

3. Change engine oil while the engine is still warm. (See figure 12). Make a note of the type and weight of oil put in crankcase.
4. Remove spark plug. Pour one ounce of SAE 30 oil into engine through spark plug hole. Crank engine a few times to distribute oil and then reinstall the spark plug.
5. Lubricate tractor. (See figure 13).
6. Be sure that the battery is filled to the proper level with water and is fully charged. Battery life will be extended if it is removed and stored in a cool, dry place, fully charged. (See figure 14).

WARNING

Batteries contain a strong acid. Use care when handling or storing a battery to prevent an accidental spill of the battery acid.

7. Clean tractor thoroughly. Coat all exposed metal parts with a good quality paint (obtainable from your dealer) or a light film of grease or oil.
8. Block machine up off the wheels to remove weight and keep tires off a damp floor. Protect tires from prolonged exposure to sunlight.
9. At end of storage period, follow instructions in the "Starting after Storage" paragraph which follows.

STARTING TRACTOR AFTER STORAGE

Before starting the tractor after a period of off-season storage, perform the following:

1. Remove spark plug and wipe dry. Crank engine a few times to blow excess oil out of plug hole. Then reinstall the plug.
2. Fill fuel tank with fresh gasoline (unless a fuel stabilizer was used).
3. **Clean engine fins and air filter. (See figure 11).**
4. Check fluid levels and tire pressure. (See figure 14).
5. Replace battery, if removed. Be sure terminals and clamps are clean when reassembling. (See figure 15).
6. Start the engine outdoors or in a well ventilated area. Do not run engine at high speeds immediately after starting.

Hot Weather Operation

When operating the tractor at temperatures above 70°F pay particular attention to the following items to prevent damage.

1. Keep the engine cooling fins and fan screen clean and free of obstruction which would decrease air flow through the engine. See figure 11 for cleaning instructions.
2. Insure that you are using the proper grade and weight of oil in the engine for the temperature at which the tractor is being used. Check the oil level each time you fill the fuel tank. DO NOT OVERFILL THE CRANKCASE — ENGINE OVERHEATING MAY RESULT.
3. Check the battery water level more frequently than every 25 hours which is recommended under normal conditions. High temperatures cause faster evaporation of water from the battery.

Cold Weather Operation

When the tractor is being used in temperatures below 30°F, check the following items closely:

1. Use the correct grade and weight of oil for the temperature conditions. Change the oil only when the engine is warm. If an unexpected temperature drop occurs when the engine is filled with summer oil, before starting the engine, move the tractor to a warm location until the oil will flow freely.
2. Use fresh fuel. Fill the fuel tank after each day's use to protect against moisture condensation.
3. Disengage the clutch when starting the engine.

Dusty Operating Conditions

When the tractor is operated in dusty or dirty conditions check the following items closely:

1. Keep the engine fins and cooling fan screen clean and free of materials which will decrease air flow.

2. Service the air cleaner more frequently. Clean it as often as necessary to allow air to flow to the carburetor freely.
3. Change the engine oil more frequently. The oil should be changed more often than every 25 hours as is recommended under normal conditions. Change every 10 operating hours.

MOWER SCHEDULED CARE

A schedule for routine care of the mower is provided in figure 17. Some of the schedule requirements are based on operating hours. Total operating time for the mower can be determined in the same manner as tractor operating time, discussed earlier in this section. Use the maintenance record at the end of this section to record operating hours, repairs, or servicing of the mower.

MOWER STORAGE

To protect your mower, store it in an enclosed dry area. To prepare the mower for off-season storage perform the following:

1. Remove mower from tractor. (Refer to procedure at front of manual).
2. Clean top and underside of mower to remove all grass and dirt.
3. Coat all bare metal surfaces with a good quality paint or a light coat of oil to prevent rusting.
4. Lubricate the mower. (See figure 18).
5. Check, sharpen and balance the mower blades. (See figure 19).

1. Check tractor and engine for loose bolts, oil leaks, etc.

2. Check/add engine crankcase oil.

NOTE
Tractor should be level.

A. Remove oil fill plug.

B. Add oil until full. Use same weight and grade of oil used at last change. If changing oil see figure 12 for proper grade and weight of oil recommended.

C. Install and tighten fill plug.

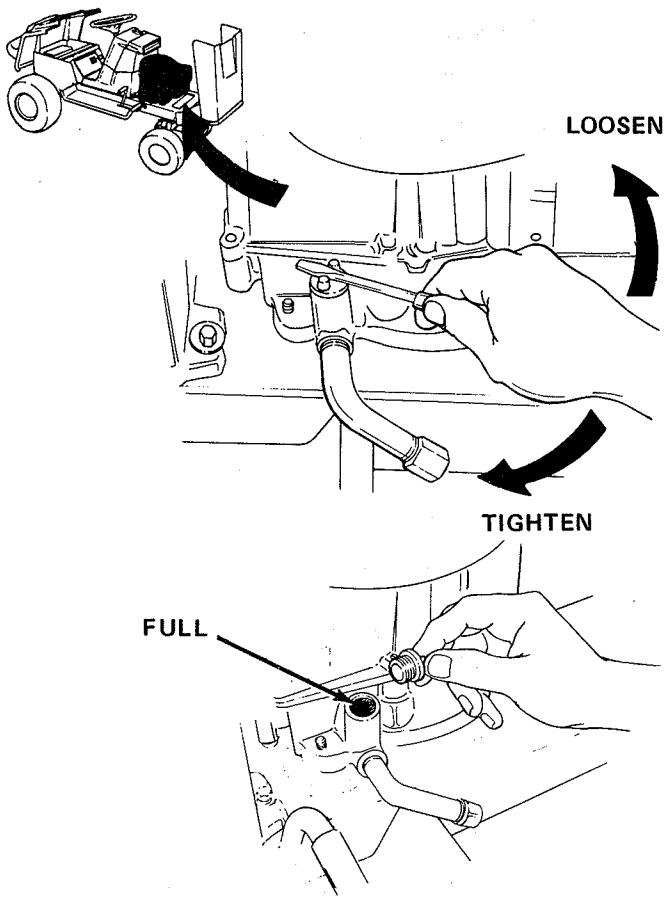
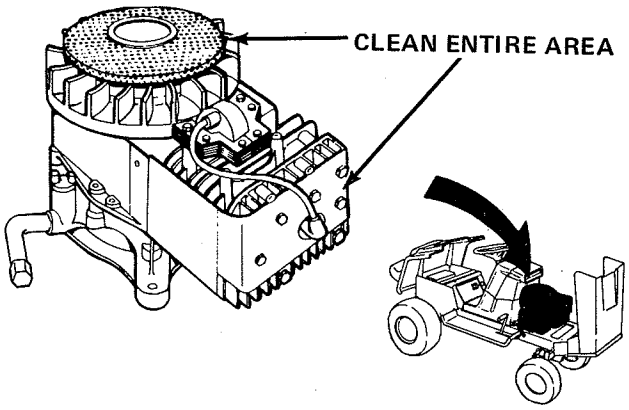
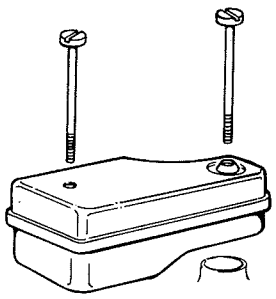


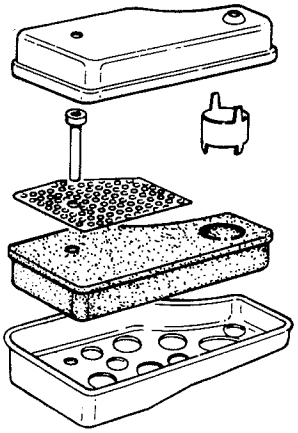
Figure 10. Check Tractor and Engine (5-Hour Care)

1. Clean all dirt and grass from engine fins. Remove cover as necessary.



2. Clean engine air filter
   - A. Remove two screws.
   - B. Lift air filter from engine.





   - C. Take apart air filter.
   - D. Wash foam with kerosene or soap and water.
   - E. Dry foam.
   - F. Soak foam with lightweight oil; squeeze several times to spread oil evenly and to remove excess.
   - G. Assemble air filter. Make sure foam extends over lip of bottom.
   - H. Install clean air filter on engine. Secure with the two screws.

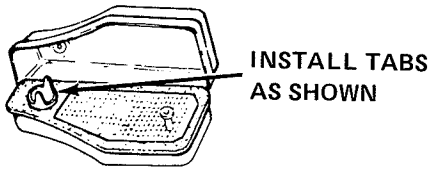
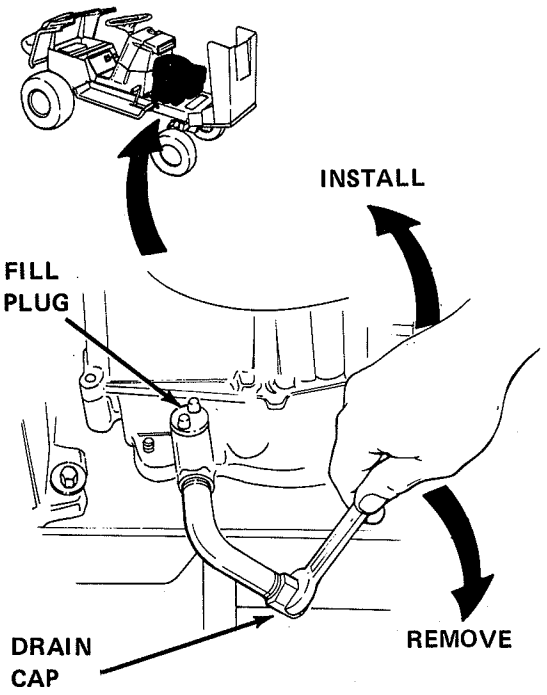


Figure 11. Clean Engine and Air Filter (25-Hour Care); or as required.

NOTE

Change oil while engine is still warm from operation.

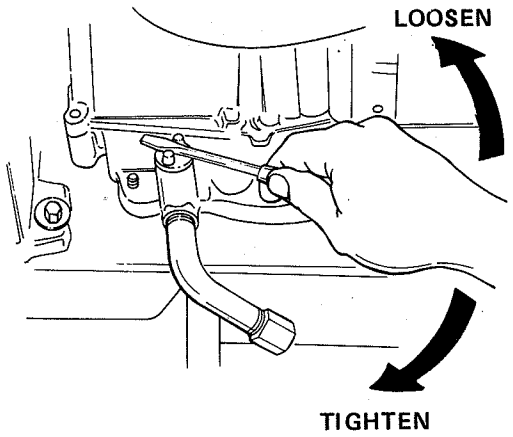


1. Remove drain cap.
2. Drain old oil.
3. Install and tighten drain cap.

NOTE

DON'T POLLUTE: Dispose of drain oil properly.

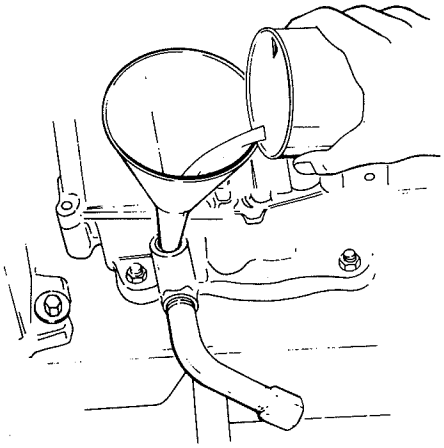
4. Remove fill plug.



NOTE

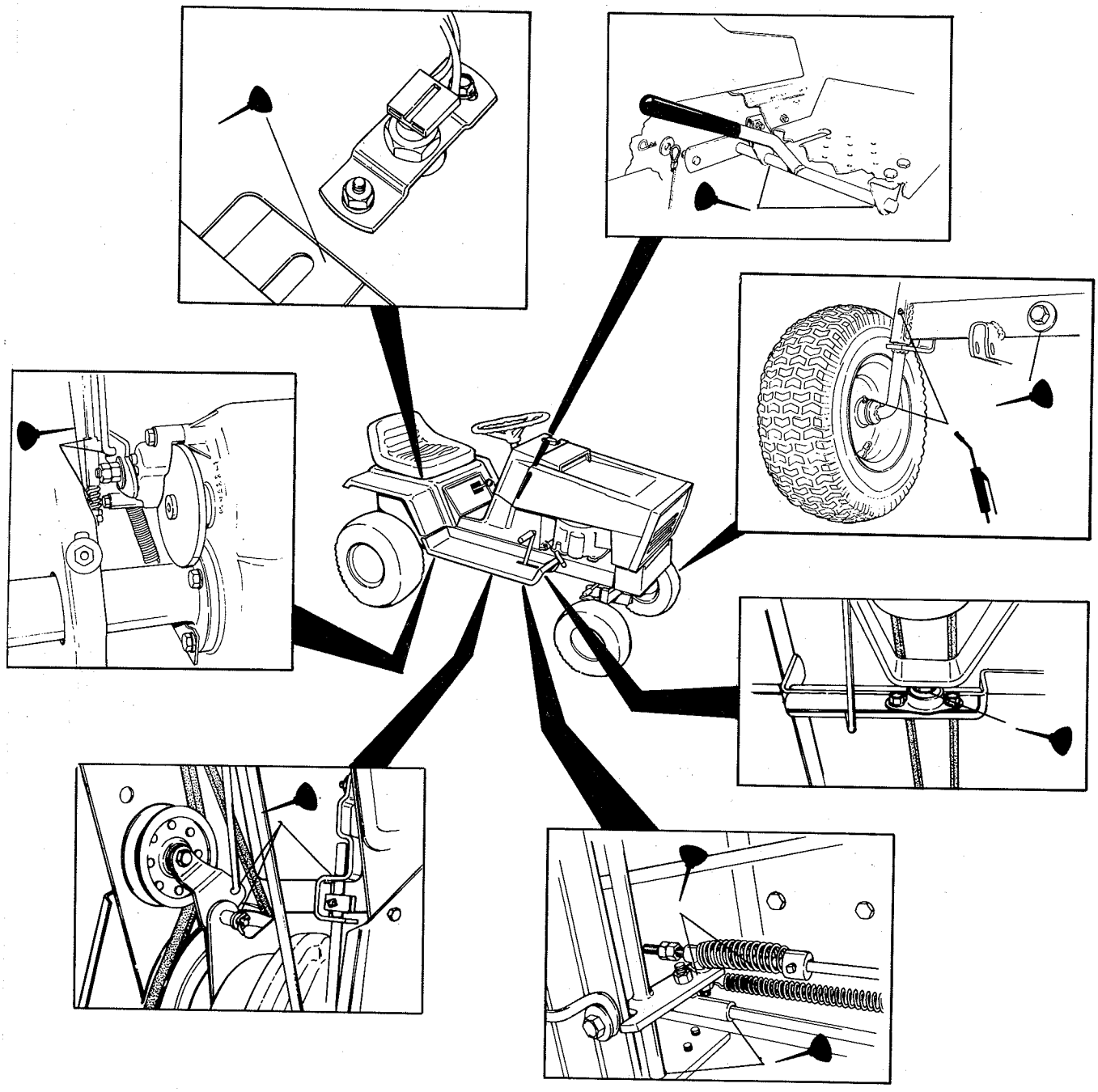
To avoid engine damage, use only high quality detergent oil of the correct grade and weight. The grade (service) marking on the can may be MS, SE, SC, or SD. The correct weight varies with the season as follows:

Summer	Winter
(Above 40°F) Use SAE 30, or SAE 10W-30.	(Between 0 & 40°F) Use SAE 5W-20 or SAE 5W-30. (Below 0°F) Use SAE 10W or SAE 10W-30 diluted 10% with kerosene.



5. Add new oil until pipe is full. Pour slowly. Capacity is about 1-1/2 quarts.
6. Install and tighten fill plug.

Figure 12. Change Engine Oil (25-Hour Care)



NOTE
Keep grease and oil off belts and pulleys.

Symbol	Use	Apply With	Procedure
	Lithium base automotive grease	Grease Gun	1. Wipe fitting clean with rag. 2. Apply 2 or 3 shots of grease. 3. Wipe up any excess grease.
	Medium weight (SAE 30) oil	Oil Can	1. Brush and wipe dirt and grass from area 2. Apply a few drops of oil. 3. Wipe up any drips or spills.

Figure 13. Lubricate Tractor (25-Hour Care)

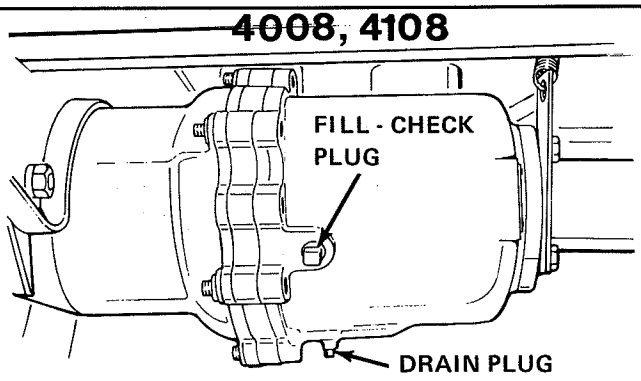
NOTE

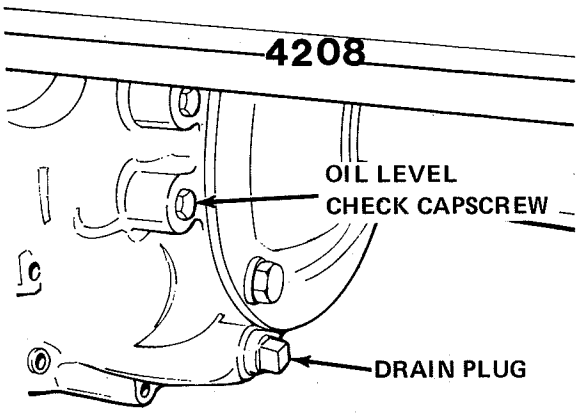
Allow 10 minutes after operation before checking transmission oil level.

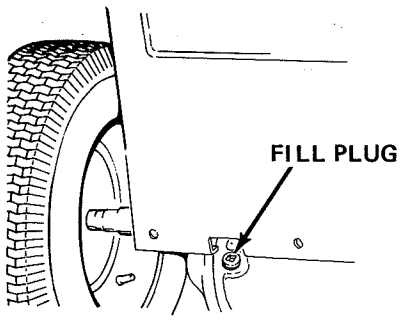
1. Check transmission oil level.
   - A. Remove transmission oil level check plug. (4008 and 4108 is checked at the fill plug, 4208 is checked at a capscrew at the rear of the transmission).
   - B. Oil should be level with bottom of hole. If not, add SAE 90 transmission oil. (On 4208, remove drawbar. Remove fill plug from transmission and add oil.)
   - C. When oil is level with check plug hole, replace and tighten fill plug on 4008 and 4108, (capscrew and fill plug on 4208).

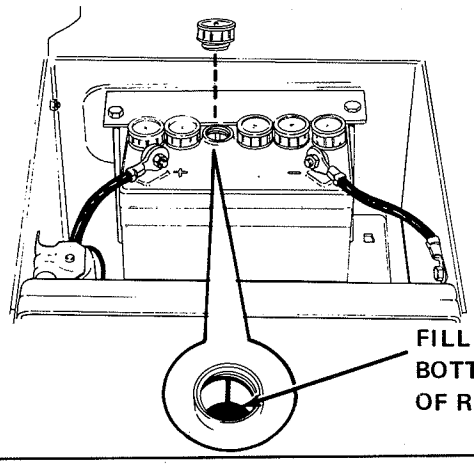
2. Check battery fluid level.
   - A. Remove filler caps, one at a time.
   - B. Fluid must be even with full mark at bottom ring. If not, add distilled water to refill.
   - C. Install filler caps.

3. Check air pressure of all four tires.









FRONT TIRES
12 - 15 LBS.

REAR TIRES
6 - 8 LBS.

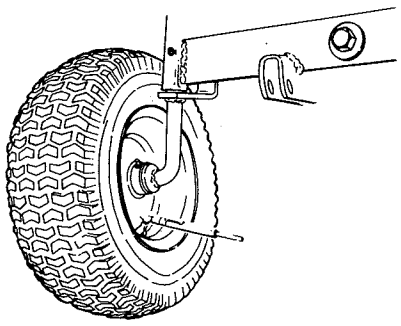
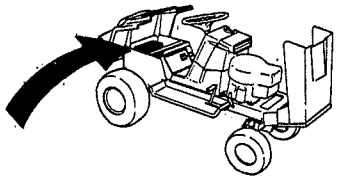


Figure 14. Check Fluid Levels and Tire Pressure

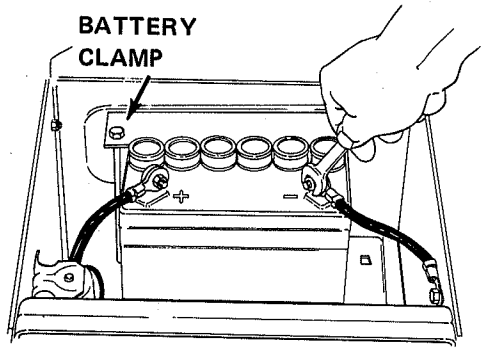
CAUTION

When removing or installing battery, always remove negative cable first, and replace it last.



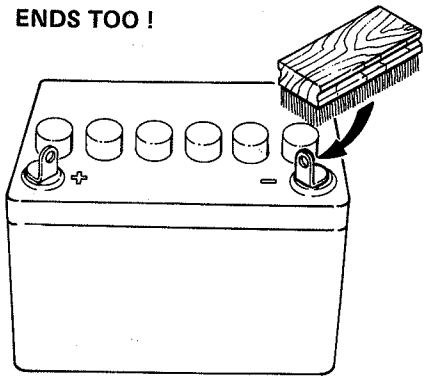
REMOVE NEGATIVE CABLE FIRST !

BATTERY CLAMP



1. Remove cables, negative cable first.
2. Remove clamp.
3. Remove battery.
4. Scrub battery, cables, and battery compartment. Use baking soda and water.
5. Clean battery posts and cable ends with wire brush.
6. Install battery and clamp.
7. Install cables, positive cable first.
8. Coat posts and cable ends with grease or vaseline.

BRUSH CABLE ENDS TOO !



INSTALL NEGATIVE LAST !

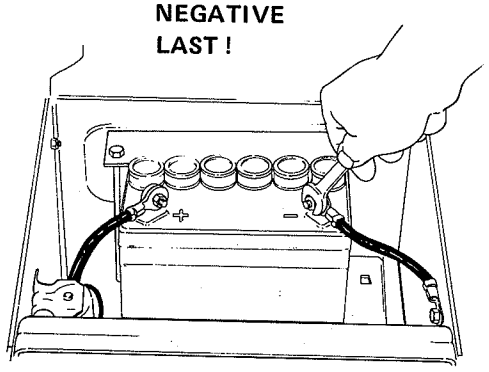
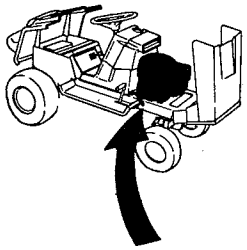
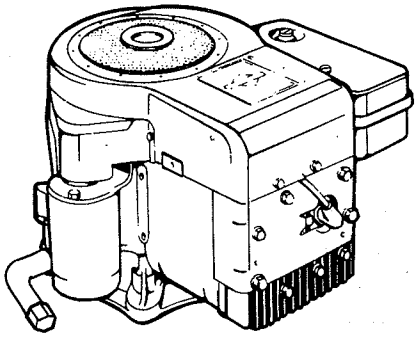


Figure 15. Clean Battery and Cables 100-Hour Care)

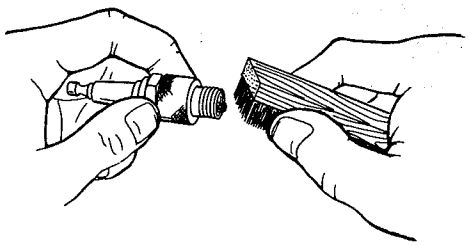




1. Remove spark plug.

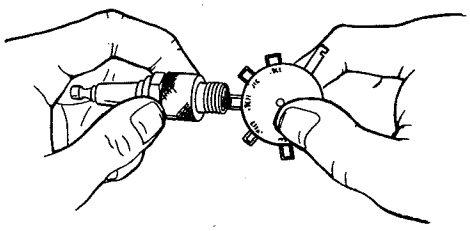
NOTE

Do not clean spark plug by sand-blasting; sand or grit that remains on plug may damage engine.



2. Clean spark plug. If plug shows signs of defects, it should be replaced with a new plug.

3. Set gap at .030 inch.



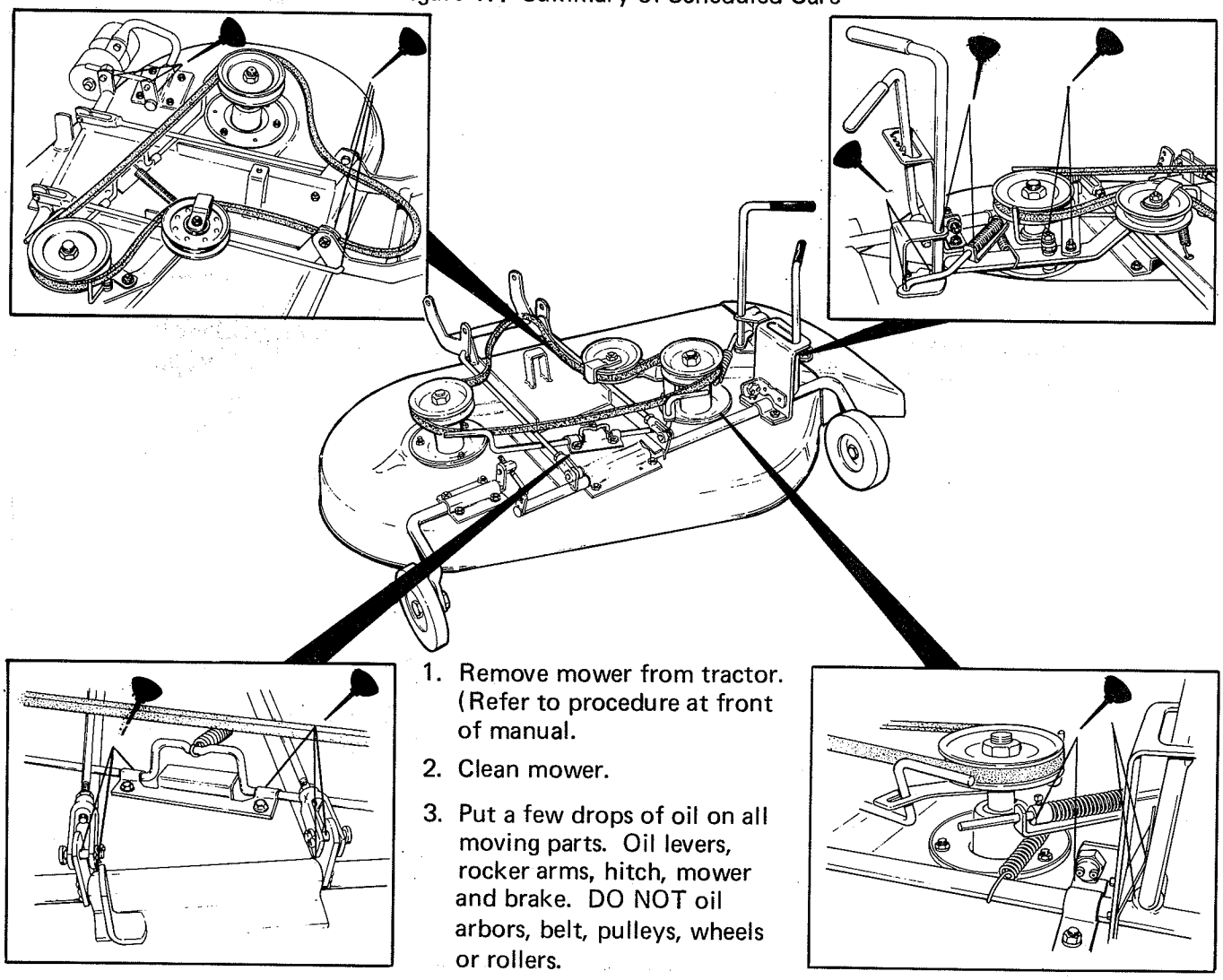
4. Install spark plug in engine and reconnect wire.

Figure 16. Clean or Replace Spark Plug (100-Hour Care)

Care Required	See Figure	Schedule			
		Before Each Use	After Each Use	Every 50 Hours*	Yearly**
Check to be sure all exterior screws, nuts, bolts, and pins are present and secure.		•			
Clean top and underside of mower to remove grass and dirt accumulations. Pay special attention to clean grass from around mower clutch safety switch.			•		
Lubricate mower.	18			•	
Clean/sharpen blades.	19				•

*At least once a year.
**More often under heavy use and immediately after striking any hard object.

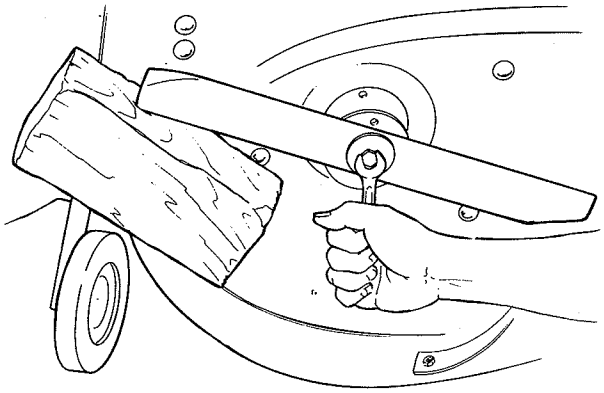
Figure 17. Summary of Scheduled Care

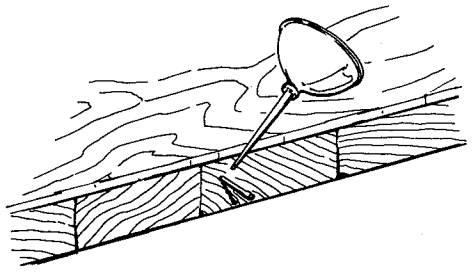


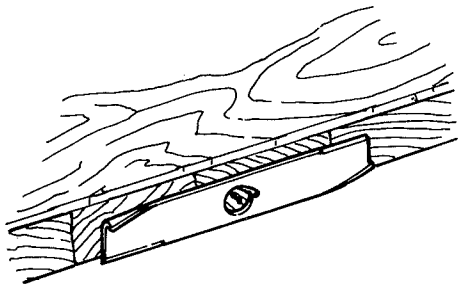
1. Remove mower from tractor. (Refer to procedure at front of manual.
2. Clean mower.
3. Put a few drops of oil on all moving parts. Oil levers, rocker arms, hitch, mower and brake. DO NOT oil arbors, belt, pulleys, wheels or rollers.

Figure 18. Lubricate Mower (50-Hour Care)

1. Remove mower from tractor (Refer to procedure in Operation Section).
2. Check each of the blades. Blades should be sharp and free of nicks and dents. If not, sharpen blades as described in remaining steps.
3. To remove blade for sharpening, use wooden block to hold blade while removing the holddown screw with washer.
4. Use a file to sharpen blade to fine edge. Remove all nicks and dents in blade edge. If blade is severely damaged, it should be replaced.
5. Check blade balance, either by using a blade balancing machine or by using the following method:
   - A. To roughly check blade balance, hammer the point of a thin finishing nail into the edge of a work bench so that it is horizontal and able to hold the weight of the blade.
   - B. Put a drop of oil on the nail to cut down friction and carefully place the blade on the nail so that the nail is on the centerline of the hole. Be sure the blade is not touching the work bench.
   - C. If one side of the blade drops below the other, then the end that drops is too heavy.
   - D. File or grind off a small amount of material from the heavy end, and recheck the blade for balance, being careful to position the blade so the nail is on the centerline of the hole.







CAUTION

Blade holddown screws must be installed with washers and securely tightened. Torque holddown screws to 50-60 foot pounds.

6. Install blade on arbor with tabs pointing up toward cover. Use wooden block to prevent blade rotation while installing and tightening washer and blade holddown screw.

Figure 19. Check, Sharpen, and Balance Mower Blades

Simplicity

Maintenance Record

Date	Hours Used	Oil Change	Air Cleaner Service	Lubrication	Maintenance/Repair

Troubleshooting

CONTENT OF SECTION

This section of the manual provides troubleshooting and repair instructions for the more common and easily corrected problems. For other problems, it is recommended that you contact your dealer.

WARNING

To avoid serious injury, perform maintenance on the tractor or mower only when the engine is stopped. Always remove the ignition key before beginning the maintenance to prevent accidental starting of the engine.

TROUBLESHOOTING PROCEDURES

Troubleshooting procedures are provided in figure 20. To use these procedures, first locate the problem description that best describes the trouble that you have encountered. Check the possible causes one at a time in the order that they are listed. Correct any problems that are found and try to operate the tractor or mower again to see if you have eliminated the trouble.

Problem	Cause
	MANUAL AND ELECTRIC START MODELS
1. Engine will not start.	A. Gear shift lever not in neutral position.
	B. Mower clutch lever not in disengaged position. Mower interlock switch may be dirty or clogged with grass.
	C. Out of fuel. Refill fuel tank.
	D. Engine flooded. Set engine control to SLOW and attempt to start.
	ELECTRIC START MODELS ONLY
1. Engine will not start.	E. Circuit breaker tripped. Wait one minute.
	F. Battery terminals are corroded and require cleaning.
	G. Battery discharged or dead. Recharge or replace as necessary.
	H. Solenoid or starter motor faulty. May need replacement.
	MANUAL AND ELECTRIC START MODELS
1. Engine will not start.	I. Wiring loose or broken. Visually check wiring and replace broken or frayed wires. Tighten loose connections.
	J. Safety interlock switch or module faulty. Replace if needed.
	K. Spark plug or points faulty, fouled, or poorly gapped.
	L. Water in fuel. Drain fuel and refill with fresh fuel.
	M. Old stale gas. Drain fuel and replace with fresh fuel.

Figure 20. Troubleshooting Procedures

Figure 20. Troubleshooting Procedures (Cont'd)

2. Engine starts hard or runs poorly.	A.	Fuel mixture too rich. Move throttle control out of choke position. Clean air filter.
	B.	Carburetor adjusted incorrectly.
	C.	Spark plug or points faulty, fouled, or poorly gapped.
3. Engine knocks.	A.	Low oil level. Check/add oil as required.
	B.	Using wrong grade of oil.
	C.	Engine worn, needs maintenance.
4. Excessive oil consumption.	A.	Engine running too hot. Clean engine fins and blower screen.
	B.	Using wrong weight of oil.
	C.	Too much oil in crankcase.
5. Engine exhaust is black or smoky.	A.	Dirty air filter. Clean air filter.
	B.	Choke not fully open. Move throttle control out of choke position and be sure it opens fully; check carburetor adjustment.
6. Engine runs, but tractor will not drive or lacks power.	A.	Transmission not in gear.
	B.	Parking brake is engaged.
	C.	Drive belt slips. (See problem and causes below.)
7. Drive belt slips.	A.	Clutch free-travel or belt tension is incorrectly adjusted.
	B.	Belt stretched or worn. Replace with correct belt.
	C.	Clutch rod binding in guide; oil clutch rod.
8. Brake will not hold.	A.	Brake (foot pedal or parking) is incorrectly adjusted. See Adjustments section.
	B.	Brake lining or pads worn and require replacement. See your dealer.
9. Tractor handles poorly.	A.	Steering linkage is loose. Tighten any loose connections.
	B.	Improper tire inflation. Check and correct.
	C.	Wheels are spinning or slipping. Use weights to provide additional stability and traction.
	D.	Moving too fast on slopes. Reduce speed.

TROUBLESHOOTING (MOWER)

1. Mower will not raise.	A.	Lift cable not attached or broken. (Model 4108 and 4208).
2. Mower cut is uneven.	A.	Mower not leveled properly. Repeat leveling adjustment in mower adjustment section.
	B.	Tractor tires not inflated equally or properly.

Figure 20. Troubleshooting Procedures (Cont'd)

3. Mower cut is rough looking.	A. Engine speed too slow. B. Tractor ground speed too fast. C. Blades dull and require sharpening. D. Mower drive belt slipping. Belt oily or worn. Clean or replace belt as necessary. Readjust belt tension.
4. Engine stalls easily with mower engaged.	A. Tractor ground speed too fast. B. Engine speed too slow. C. Cutting height set too low when mowing tall grass. Cut tall grass at maximum cutting height during first pass. D. Discharge chute jamming with cut grass; cut grass with discharge pointing toward previously cut area.
5. Excessive mower vibration.	A. Blade mounting screws are loose; tighten to 50-60 foot-pounds of torque. B. Mower blades are bent and should be replaced. C. Mower blades are out of balance; remove, sharpen, and balance blades.
6. Excessive belt breakage occurs.	A. Loose or rough pulleys require replacement. B. Using incorrect belt.

Battery Replacement

A dead battery or one too weak to start the engine may not mean the battery needs to be replaced. It may, as an example, mean that the alternator is not charging the battery properly. If there is any doubt about the cause of the problem, see your dealer. If you need to replace the battery, proceed as shown in the battery cleaning procedure (figure 15).

Jump Starting With Auxiliary (Booster) Battery

Jump starting is not recommended. However if it must be done, follow these directions. Both booster and discharged batteries should be treated carefully when using jumper cables. Follow exactly the procedure outlined below, being careful not to cause sparks:

WARNING

Never expose battery to open flame or electric spark — battery action generates hydrogen gas, which is flammable and explosive. Don't allow battery fluid to contact skin, eyes, fabrics, or painted surfaces — fluid is a sulfuric acid solution, which could cause serious personal injury or property damage when working with battery.

1. Set parking brake and place transmission in "NEUTRAL". Turn off lights and other electrical loads.
2. Remove vent caps from both the booster and the discharged batteries. Lay a cloth over the open vent wells of each battery. These two actions help reduce the explosion hazard always present in either battery when connecting "live" batteries to "dead" batteries.
3. Attach one end of one jumper cable to the positive terminal of the booster battery (identified by a red color, "+" or "P" on the battery case, post or clamp) and the other end of same cable to positive terminal of discharged battery. DO NOT permit vehicles to touch each other, as this could establish a ground connection and counteract the benefits of the procedure.
4. Attach one end of the remaining cable to the negative terminal (black color, "—" or "N") of the booster battery, and the other end to a bare metal surface on the frame of your tractor AWAY FROM the battery compart-

ment (do not connect directly to negative post of dead battery). Take care that clamps from one cable do not inadvertently touch the clamps on the other cable. Do not lean over the battery when making this connection. Reverse this sequence exactly when removing the jumper cables. Reinstall vent caps and throw cloths away as the cloths may have corrosive acid on them.

WARNING

Any procedure other than the above could result in: (1) personal injury caused by electrolyte squirting out the battery vents, (2) personal injury or property damage due to battery explosion, (3) damage to the charging system of the booster vehicle or of the immobilized vehicle.

Do not attempt to jump start a vehicle having a frozen battery because the battery may rupture or explode. If a frozen battery is suspected, examine all fill vents on the battery. If ice can be seen or if the electrolyte fluid cannot be seen, do not attempt to start with jumper cables as long as the battery remains frozen.

Belt Replacement

The main drive belt may eventually require replacement. If it does, make sure the wear or breakage of the old belt is not due to pulley misalignment or burrs on the pulleys. Then replace the belt as follows:

On Models 4008 and 4108:

1. Remove the belt stop from the clutch idler pulley.
2. Remove the neutral start actuator from the gear shift lever (see figure 21).
3. Press the clutch-brake pedal down to remove tension from the belt and remove the belt from the engine drive pulley and the clutch idler pulley.
4. Turn the belt sideways to slip it off the transmission pulley, and remove the belt from the tractor by slipping it over the gear shift lever.

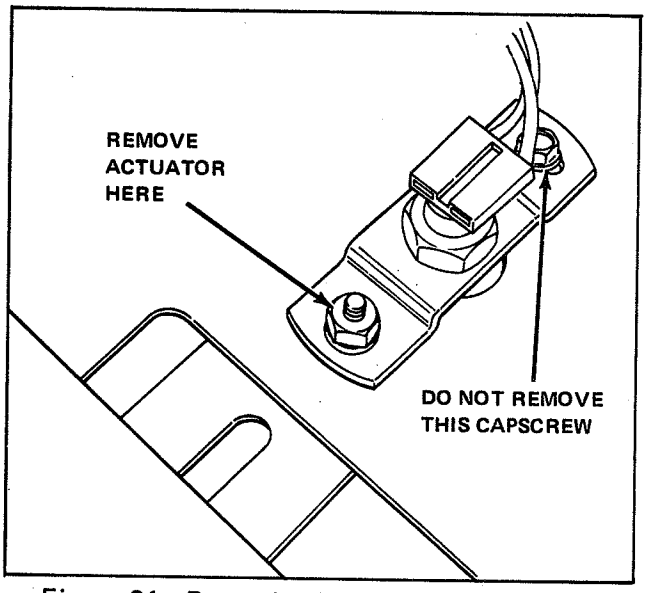


Figure 21. Removing Neutral Start Actuator

5. Replace the new belt on the tractor in the reverse order of the above steps, taking care to replace the neutral start actuator and the idler pulley belt stop. The idler pulley belt stop should be positioned so that it is facing side to side on the pulley (see figure 22).

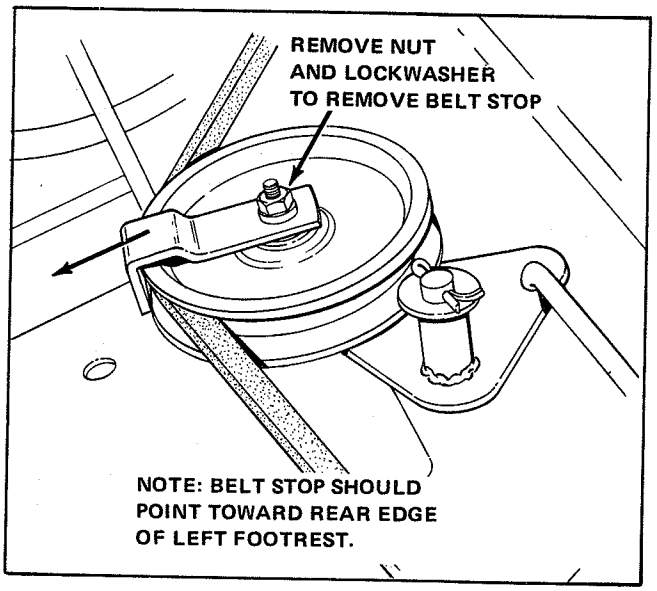


Figure 22. Removing Belt Stop

6. Check the clutch-brake adjustment as described in the Clutch-Brake Adjustment procedure in the following section.

Adjustments

CONTENT OF SECTION

This section of the manual contains adjustment procedures for the tractor, mower and engine. A simplified wiring diagram of the tractor (figure 39) is provided as an aid in locating electrical problems.

WARNING

To avoid serious injury, perform adjustment procedures on the tractor only when the engine is stopped. Always remove the ignition key before beginning the adjustment procedures to prevent accidental starting of the engine.

4208 ADJUSTMENTS ONLY

4208 Clutch-Brake Adjustment

Correct adjustment of the clutch and brake mechanisms is vital to smooth machine motion and tractor braking. These adjustments also affect operation of the parking brake. The total adjustment procedure consists of four adjustments. These four adjustments should be performed in the following order:

- Brake rod adjustment
- Clutch free-travel adjustment
- Clutch rod tension adjustment
- Parking brake adjustment

4208 Brake Rod Adjustment. With clutch-brake pedal pressed down fully, measure the clearance between the pedal and the foot rest as shown in figure 23. The clearance should be approximately 1/2 inch when the brake is fully applied. If not, adjust the brake rod as follows:

1. Release clutch-brake pedal.
2. Adjust position of adjusting nut (item C, figure 24) on brake rod (item A) after loosening locknut (item B). Move the nut toward the rod guide if the clearance was less than 1/2 inch; move the nut away from the rod guide if the clearance was more than 1/2 inch. Retighten locknut (item B) after adjustment while holding adjusting nut still.
3. Repeat check and adjustment until proper clearance is obtained.

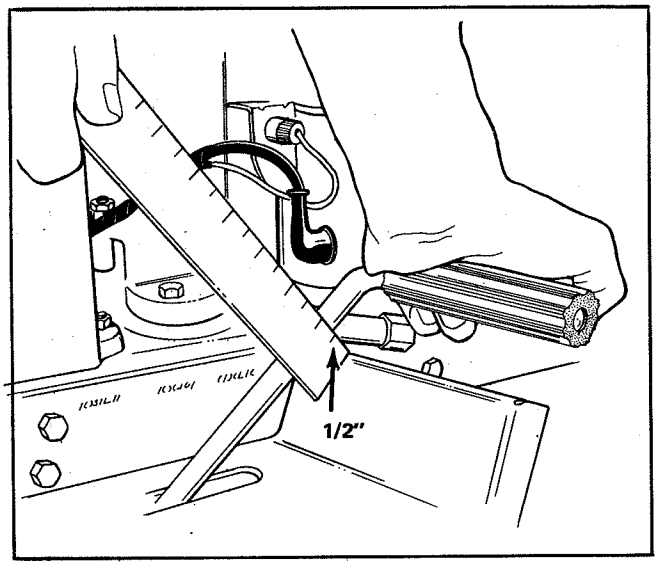


Figure 23. Check Pedal Clearance

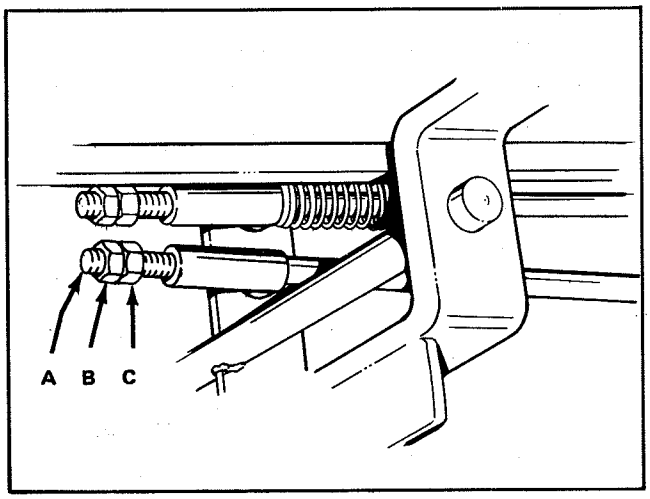


Figure 24. Brake Rod Adjustment

4208 Clutch Free-Travel Adjustment

1. Insure that clutch-brake pedal remains released throughout adjustment.
2. Press clutch idler pulley (item A, figure 25) firmly against drive belt (item B). Make sure all slack is removed from belt.
3. Measure gap between adjusting nut (item C, figure 26) and rod guide (item D) on clutch rod (item A). Adjust position of adjusting nut (item C) as necessary to obtain gap of 1/2-5/8 inch between bottom of nut and top of rod guide. Retighten locknut (item B) while holding adjusting nut from moving.

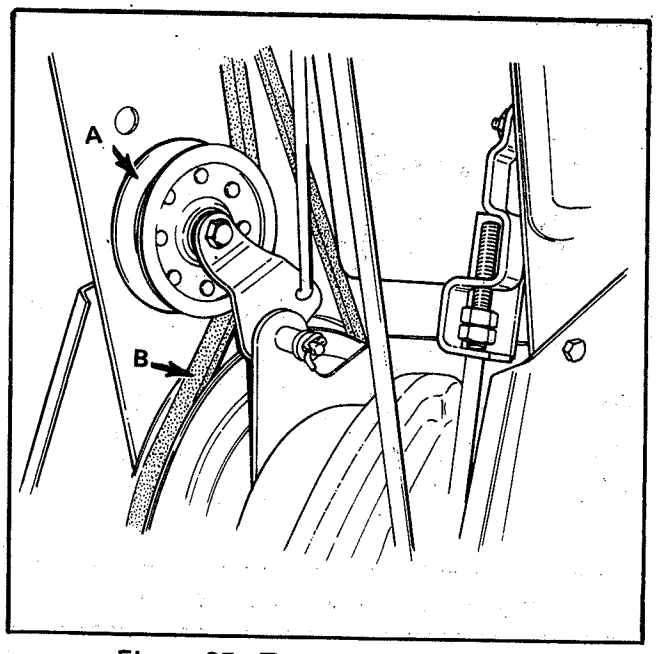


Figure 25. Tension Idler on Belt

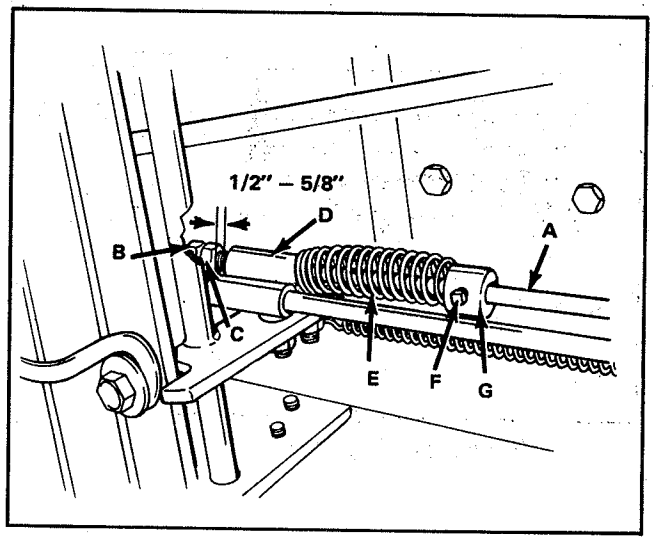


Figure 26. Clutch Rod Adjustment

4208 Clutch Rod Tension Adjustment

1. Press and tie down clutch-brake pedal.
2. Loosen setscrew (item F, figure 26.)
3. Move collar (item G) against the spring (item E) and compress the spring 1/8-1/4 inch on the clutch rod (item A) with the collar to place a slight tension on the spring.
4. Hold collar in position obtained in step 3 and tighten setscrew (item F).

4208 Parking Brake Adjustment. The parking brake should be tight enough so that it will prevent tractor movement when parked in neutral and yet can be easily placed in the engaged position. Before adjusting the parking brake, check the condition of the brake band.

To adjust the parking brake, release the brake and loosen the locking nuts (item A, figure 27) on the parking brake rod (item B). Move the nuts forward on the rod to decrease brake tension, rearward on the rod to increase brake tension. Lock the nuts tightly together when the proper tension is reached.

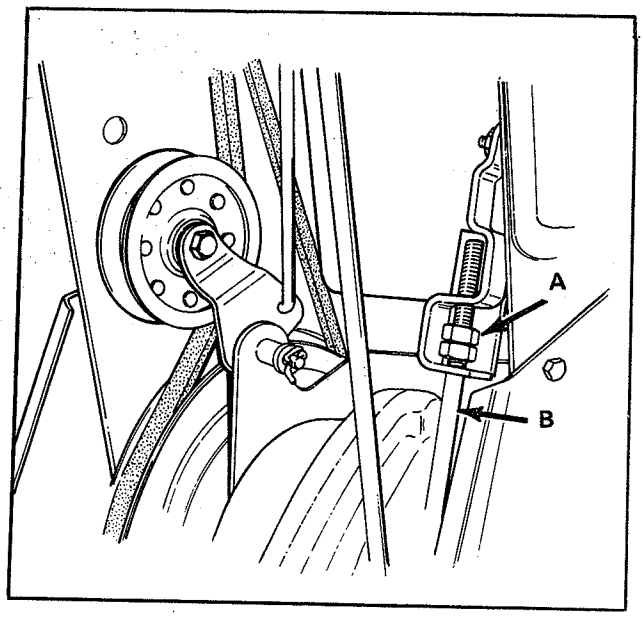


Figure 27. Parking Brake Adjustment

4008 and 4108 ADJUSTMENTS ONLY

4008 and 4108 Clutch-Brake Adjustment

Correct adjustment of the clutch and brake mechanisms is vital to smooth machine motion and tractor braking. The total adjustment procedure consists of five adjustments. These five adjustments should be performed in the following order:

- Brake pad clearance adjustment
- Brake rod adjustment
- Clutch rod adjustment
- Clutch rod rod tension adjustment
- Parking brake rod tension adjustment

4008, 4108 Brake Pad Adjustment

1. With the tractor on a level surface, place the transmission in gear and release the parking brake. Move the brake rod back and forth to make sure that there is no tension on the brake pads.

2. Push the brake cam lever (item B, figure 28) forward by hand to take any slack out of the brake linkage. With the brake cam lever pushed forward, the gap between the rear of the brake cam lever (item B) and the cam lever stop (item C) should be 1/8 inch (.125 inch). Use a feeler gauge to measure the gap. If it is not 1/8 inch, proceed to step 3.

3. Loosen the locking nut (item E) on the brake adjustment stud. Tighten the adjusting nut (item D) slightly onto the stud to decrease the gap, and loosen the adjusting nut on the stud slightly to increase the gap. Recheck the gap measurement. When it is correct, tighten the locking nut to the adjusting nut, holding the adjusting nut to prevent it from turning.

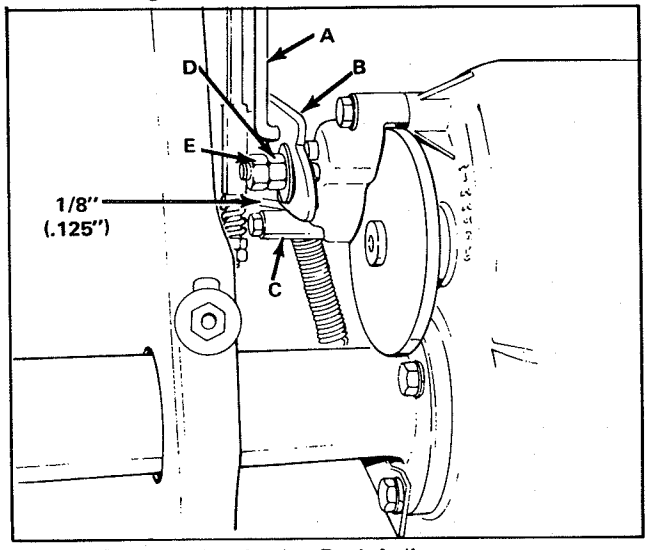


Figure 28. Brake Pad Adjustment

NOTE

The following adjustments should only be necessary after extended use or after replacing a brake pad or drive belt.

4008, 4108 Brake Rod Adjustment

1. After the brake pad clearance is properly adjusted, push the brake rod forward again by hand as far as it will go. The gap between the brake rod adjusting nut (item C, figure 29) and the spring (item D) should be 5/8 - 3/4 inch. If it is not, proceed to step 2.

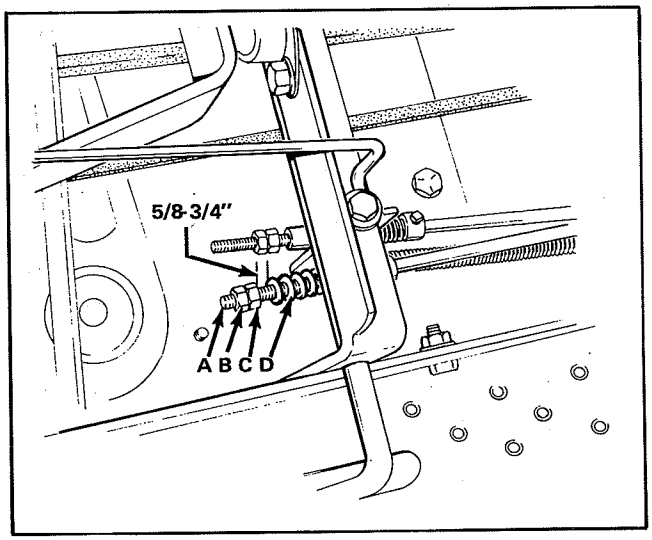


Figure 29. Brake Rod Adjustment

2. Loosen the locking nut (item B) from the adjusting nut on the end of the brake rod. Tighten the adjusting nut onto the brake rod (item A) to decrease the gap between the nut and the spring, or loosen the nut on the rod to increase the gap. When the gap measures between 5/8 and 3/4 inch, tighten the locking nut to the adjusting nut, holding adjusting nut to prevent it from turning.

4008, 4108 Clutch Rod Adjustment

1. Push the clutch idler pulley firmly to the belt by hand. With the idler pulley tight against the belt, the gap between the adjusting nut (item C, figure 30) on the end of the clutch rod (item A) and the rod guide (item D) should be 1/4 inch. If it is not, tighten the adjusting nuts onto the clutch rod to decrease the gap, or loosen them to increase the gap. Lock the nuts together as described earlier when the gap measures 1/4 inch.

2. After the clutch rod length is properly adjusted, depress the clutch-brake pedal fully. Loosen the collar (item F) behind the spring (item E) on the clutch rod. Move the collar

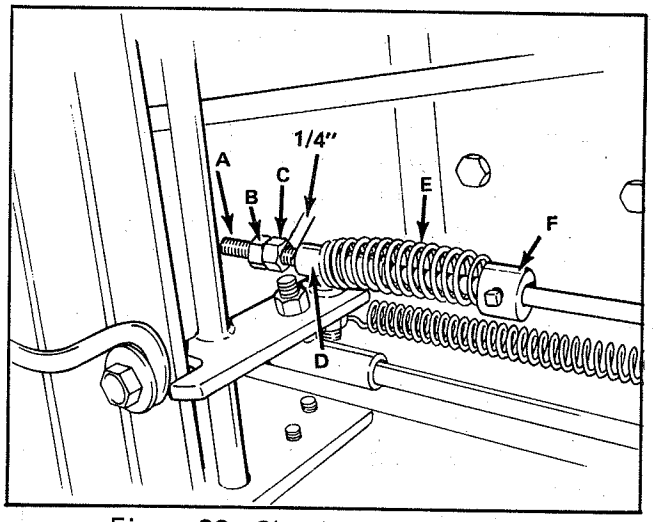


Figure 30. Clutch Rod Adjustment

toward the spring so that it is just touching the spring (be sure the spring is seated over the rod guide (item D). Push the collar 1/8-1/4 inch further toward the spring to place a slight tension on the spring and tighten the setscrew in the collar.

4008, 4108 Parking Brake Rod Adjustment

With the parking brake disengaged, the spring (item A, figure 31) on the parking brake rod (item C) should be just free to rotate. Adjust the adjusting nuts (item B) as needed so that they hold the spring against the rod guide just loose enough to turn freely.

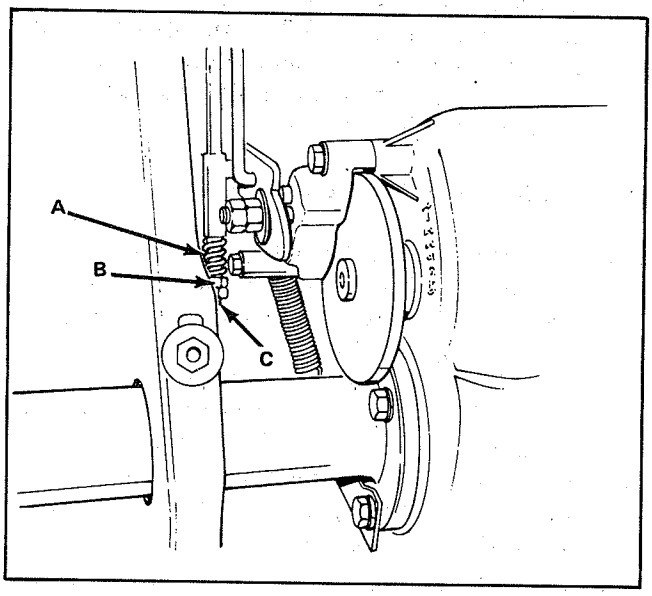


Figure 31. Parking Brake Adjustment

WARNING

To avoid serious injury, perform maintenance on the tractor or mower only when the engine is stopped. Always remove the ignition key before beginning the maintenance to prevent accidental starting of the engine.

Drive Belt Stop Adjustment (All Models)

If the main drive belt does not stop when the clutch-brake pedal is depressed, the belt stops may need adjustment. (See figure 32). The belt stops should be adjusted so there is a 1/16 inch gap between the belt stop and the belt when the belt is tight (clutch engaged). To adjust a belt stop, loosen the bolt that secures it and move the belt stop slightly before retightening the bolt. Then recheck the adjustment. Bolt should be torqued to 25 ft./lbs. on models 4108 and 4208, and to 13 ft./lbs. on model 4008.

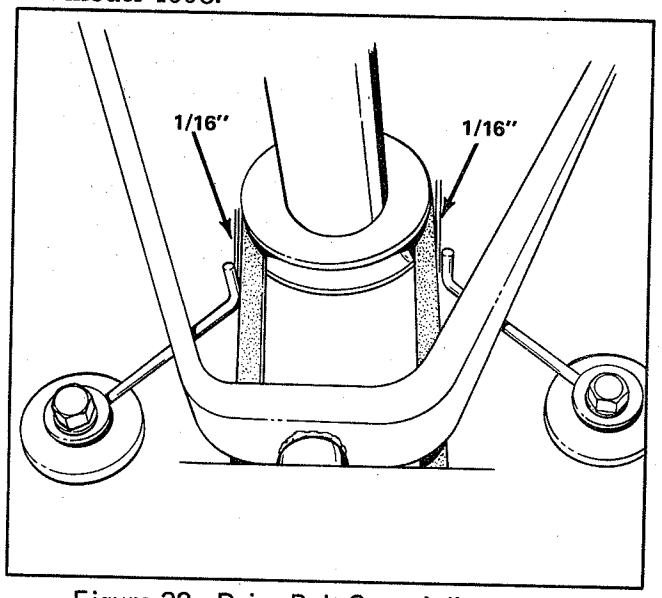


Figure 32. Drive Belt Stop Adjustment.

Mower Clutch Rod Adjustment (All Models)

If the rotary mower slips or fails to drive, the mower clutch rod guide may require adjustment. To check for proper adjustment, lower the mower, place the mower clutch lever in the engaged position. Then measure the gap between the rod guide (item A, figure 33) and the set collar (item B). The gap should be 1/2 inch. If it is not, perform adjustment as follows:

1. Place the mower clutch lever in the disengaged position.
2. Loosen the setscrew (item C) in the set collar item B).
3. Move the mower clutch rod slightly rearward to increase the gap, slightly forward to decrease the gap.
4. Retighten setscrew (item C).
5. Repeat check and adjustment until the proper gap is obtained when the mower clutch is engaged.

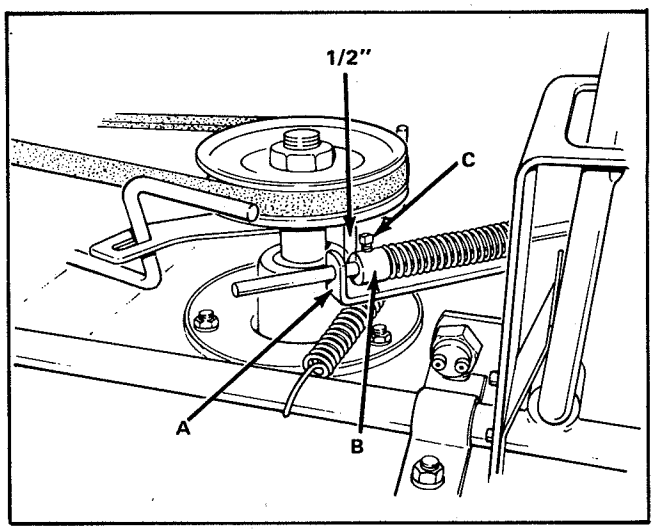


Figure 33. Mower Clutch Rod Adjustment

Mower Idler Arm Belt Stop Adjustment

The mower idler arm belt stop should be 1/8 inch from the mower belt when the mower clutch is engaged (see figure 34). If it is not, loosen the locknut holding on the belt stop and move the belt stop until the 1/8 inch clearance is reached. Then retighten the locknut while holding the belt stop to keep it from moving.

Mower Idler Pulley Belt Guard Adjustment

The mower idler pulley belt guard should be adjusted so that it is pointed directly toward the left arbor pulley when the mower clutch is DISENGAGED. If it is not, loosen the nut holding on the belt guard and pulley, point the belt guard toward the left arbor (as shown in figure 35). Tighten the nut while holding the belt guard to keep it from moving.

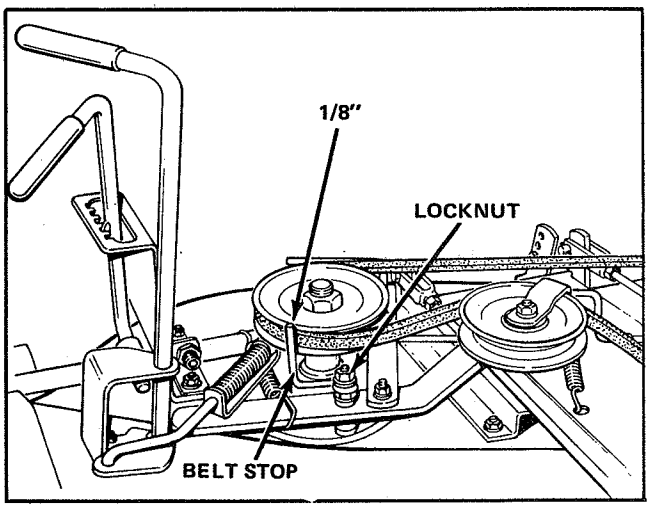


Figure 34. Idler Arm Belt Stop Adjustment

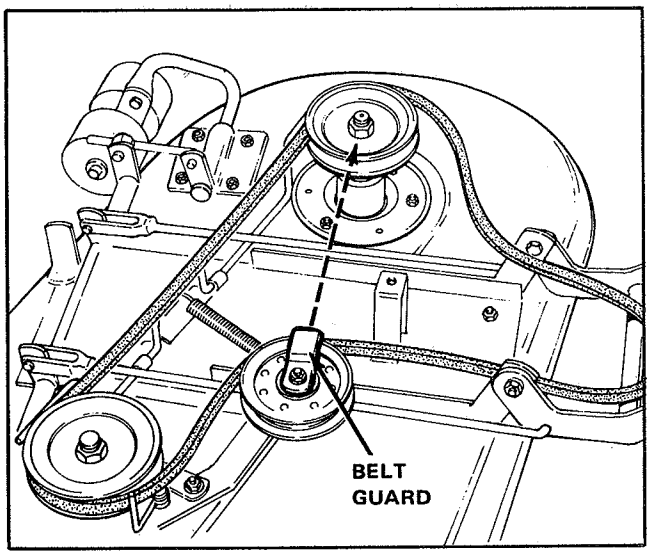


Figure 35. Idler Pulley Belt Guard Adjustment

Raising Tractor Hood

To raise the tractor hood, pull the sides of the hood outward, and raise the hood upward and forward until it rests in its raised position.

CAUTION

To prevent injury, take care that the hood or seat is not accidentally tipped back while working on or near the tractor.

Seat Adjustment

The seat may be moved forward or backward to any different position to suit different size operators. To move the seat, proceed as follows:

1. Raise seat deck by lifting latch on left side of seat. (See figure 36.)

2. Loosen the screws and lockwashers (figure 36) that secure the seat to the seat deck.

On model 4008 and 4108, 4 capscrews must be loosened. On model 4208, 2 handles must be loosened.

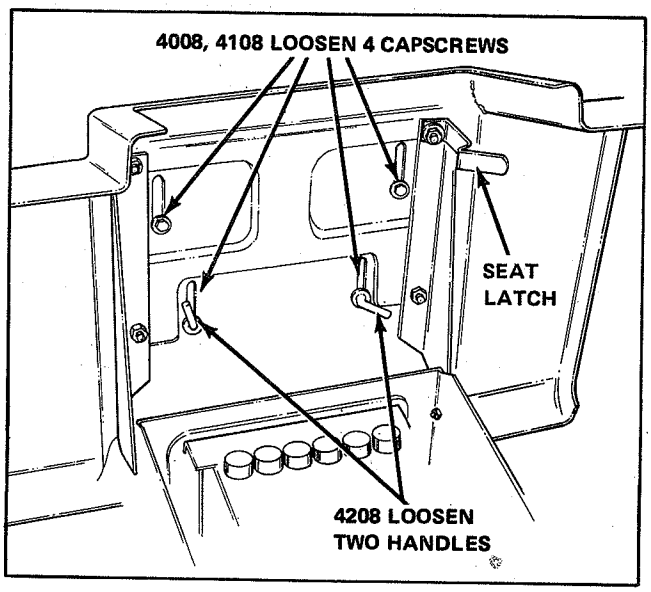


Figure 36. Seat Adjustment

3. Move the seat forward or backward as desired.
4. Tighten the screws to hold seat in place.

Leveling the Mower

If the mower is giving an uneven cut, or if one side of the mower cuts at a different height than the other side, then the mower needs leveling. To level the mower, proceed as follows:

WARNING

To avoid serious injury, perform maintenance on the tractor or mower only when the engine is stopped. Always remove the ignition key before beginning the maintenance to prevent accidental starting of the engine.

1. Mount the mower on the tractor and place it on a level, smooth surface, such as a concrete floor.
2. Check for bent blades, and replace if necessary.
3. With the mower clutch disengaged and the key removed from the ignition switch, arrange the mower blades so that they are both pointing from side to side, perpendicular to the tractor.
4. Measure the distance between the outside tips of each blade and the ground. If there is more than 1/8 inch difference between the measurements on each side, proceed to step 5.
5. Remove the cotter pin holding on the mower leveling rod (figure 37), and shorten the rod to raise the left side of the mower, and lengthen the rod to lower the left side of the mower. Put the leveling rod back in its hole and recheck the measurements. When both sides are the same height, replace the cotter pin in the leveling rod.

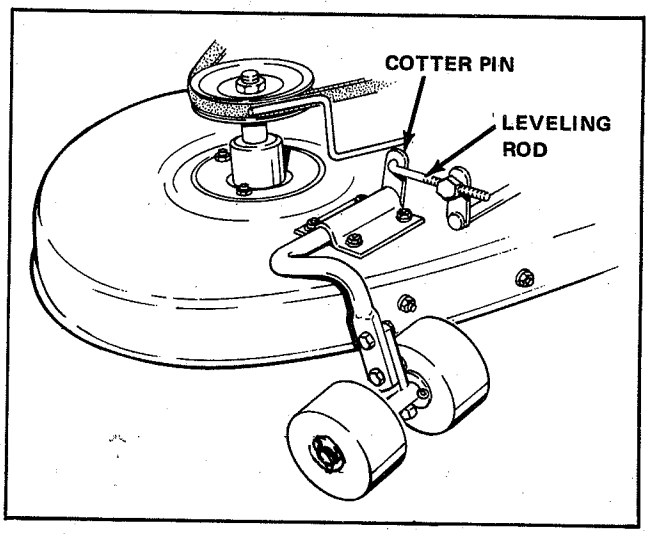


Figure 37. Leveling Mower

6. Arrange the blades so that they are facing front to back, parallel with the tractor.
7. Measure the distance to the ground from the front tip of the left blade and the rear tip of the right blade. The measurements should be equal. If they are not, proceed as follows:
8. Remove the cotter pins and pins from the hitch clevises (figure 38). Turn each clevis an equal number of turns in the same direction, shortening the hitch rods to raise the front of the mower, and lengthening the hitch rods to lower the front ot the mower.